



## SOLE SOURCE CERTIFICATE AND POSTING NOTICE (Greater than \$150,000)

A sole source procurement is when you make a request to purchase product(s) and/or service(s) without competition when competition is otherwise required. This means that product/service is unique and that the supplier is the only supplier that can provide the product or service. In accordance with the authority granted under applicable Florida law and UCF Regulation 7.130, the following documentation is submitted in support of this request.

This form and related documentation shall be submitted through Workday Help using case type Waivers and Sole Source. Please do not attach to a requisition or send via email for review and approval.

WD case subject title should have common structure for easy tracking, to include:

- Exemption type (Sole Source)
- Supplier name
- Purchase amount

The completed sole source must be approved in the following order. **Please be sure to obtain all required signatures before submitting the form to Procurement Services.**

- PI/Researcher/Director/Chair
- President/Vice President/Dean
- Procurement Specialist
- Procurement Services Manager or Associate Director
- Assistant Vice President for Tax, Payables & Procurement, who will review and provide a recommendation to approve or disapprove the sole source to:
- Chief Financial Officer, who will either directly approve or disapprove the sole source, or forward it to the Provost and Executive Vice President for goods/services related to academia for input prior to making the final decision.

Once the completed sole source is received, Procurement Services in collaboration with kNEXT reviews the documentation provided and determines whether the sole source is valid or if there are additional suppliers that may be able to provide the requested product or service. The sole source review and approval process varies based on the nature of the product/service being requested and the information provided in the requestor's justification, among other factors, so please keep this in mind when submitting the form.

Contingent upon the approval of all the officers/individuals listed, the sole source shall be posted on the UCF Procurement Services website for seventy-two (72) hours. Upon expiration of said posting period, Procurement Services will process a purchase order upon receipt of the requisition.

**The usual bidding process shall be conducted if sole source approval is not granted.**

**PART I: DEPARTMENT AND SUPPLIER INFORMATION**

Department Name: Physics

Contact & Phone: Ryan Ogliore

Product/Service Cost: \$1.7M

One Time Purchase     Term Contract: \_\_\_\_\_

Multiple Purchases     Duration: \_\_\_\_\_

Company Name: Nu instruments

Email: mike.colucci@ametek.com

Contact Person: Mike Colucci

Title: Regional Sales Manager

Product and/or Service: Mass spectrometers

**PART II: SOLE SOURCE JUSTIFICATION (see pages 4-5)**

**Only justifications submitted on this form and in the below format will be reviewed for approval. All the listed points MUST be fully answered on the following pages and any additional attached pages as needed. Failure to submit justification as outlined in the format below will result in the form being returned without review.**

**PART III: SOLE SOURCE CERTIFICATIONS**

- A. In my professional opinion, this is the only product or service that can reasonably meet my requirement(s)/specification(s), and this is the only supplier who can provide the product or service. I further certify that the information contained herein is true and correct to the best of my knowledge and belief and would withstand any audit or supplier protest.
- B. I, the undersigned, certify that I and/or the user do not have a financial interest in the above named supplier or contractor, and that I am unaware of any conflict of interest related to this purchase.

Digitally signed by Ryan Ogliore  
Date: 2026.06.08 09:16:49 -05'00'

**Signature**

Ryan Ogliore, Associate Professor

**Printed Name and Title (PI/Researcher/Director/Chair)**

June 8 2026

**Date**

Digitally signed by Joshua Colwell  
Date: 2026.06.08 13:16:59 -04'00'

**Signature**

Joshua Colwell, Dean, College of Sciences

**Printed Name and Title (President/Vice President/Dean)**

(Delegations not allowed; emails from absent approvers are acceptable)

June 8, 2026

**Date**

I, the undersigned, hereby concur with the above justification and support a sole source approval for the above product(s) and/or service(s). Approvals may be documented and supported via email.

See email approval below.

**Signature**

**Printed Name and Title (Procurement Specialist)**

**Date**

See email approval below.

**Signature**

**Printed Name and Title (Procurement Services Manager or Associate Director)**

**Date**

See email approval below.

**Signature**

**Printed Name and Title (Asst. Vice President for Tax, Payables & Procurement)**

**Date**

See email approval below.

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Printed Name and Title (Chief Financial Officer)**

\_\_\_\_\_  
**Date**

**POSTING NOTICE**

7/2/26 / 4:00 PM EST

**Date/Time Posted**

7/8/26

**Posting End Date**

2701

**UCF Control No.**

Brandon Orofino

**Procurement Specialist**

## SOLE SOURCE JUSTIFICATION

Please answer the questions below and attach additional documentation if needed.

1. Describe the product(s) and/or service(s) and anticipated use thereof in layman’s language.

Nu instruments provides two mass spectrometers: the Sapphire XD and the Vitesse. The Sapphire XD is an instrument that is highly precise, slower, and measures a few species at once. The Vitesse is less precise, faster, and measures all species at once. In combination, these two instruments allow for the interrogation of a sample, and follow-up high-precision measurements.

2. Describe the required specifications or requirements and why are they essential to the accomplishment of your work.

For my work on meteorite and lunar samples, I require an instrument with part-per-ten-thousand precision in isotope measurements, and the ability to filter masses and reach species so that they can be measured without interference. These requirements will allow me to date the formation of crystals in lunar and meteorite samples to high precision. I also require an instrument to characterize the complex mineralogy of the lunar and meteorites samples I will study. I require these two instruments to work in combination.

Provide the names of other suppliers, products and/or services that you have investigated and explain why they do not meet the required specifications or requirements. It may be helpful to present your information in a table like the one below.

Required Specifications	Supplier 1	Supplier 2	Supplier 3	Supplier 4
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N

(I could not type into the above table) I looked at the Thermo-Fischer Neoma instrument, the IONTOF M6, and the Cameca LEAP 6000 XR Atom Probe. The IONTOF and LEAP6000 do not have the required precision. The Neoma does not have the ability to switch between traditional and collision-cell mode using a dual path like the Nu instrument does. It also does not have a time-of-flight instrument made by the same manufacturer that can work in tandem.

3. State in detail why only this and no other product(s)/service(s) will satisfy the department’s requirements. Description may include unique features, compatibility, specifications, availability, delivery time frame etc. (For example, please list the features or special conditions that are unique and only available from one supplier. Note: Price is not a valid reason.)

The Sapphire XD MC-ICP-MS system offers both standard and collision/reaction cell mode of operation. This will allow the researchers to perform both routine heavy isotope ratio analysis (i.e. Sr, Nd, Pb, U, etc) and the analysis of non-traditional isotope ratio systems that are subjected to argon-based interferences on the same instrument without any compromise in analytical performance. This patented “dual mode” capability (as illustrated below) is unique to the Sapphire XD from Nu Instruments and not available on any other commercially available MC-ICP-MS system. 1. Zoom Optics: Each instrument manufactured by Nu Instruments is designed with patented electrostatic “zoom” optics that uses a quadrupole field to focus the ion beam with variable instrument dispersion. The zoom optics allow the ion beam to be focused into a fixed collector array, thus precluding the necessity for moving collectors. This saves time while tuning the instrument and avoids potential failure from moving parts in the collector block. Other MC-ICP-MS instruments on the market, such as those provided by ThermoFischer Scientific, have movable collectors that are prone to failure and do not allow for the type of multiple ion counting described in the next point. 5. Retractable Mass Filter - Recent technological advancements in MC-ICP-MS instrumentation involve the implementation of a “Mass Filter” that allows for the deflection and filtering of ions outside of a specific mass range to produce a “clean” mass region where isobaric isotope systems can be separated from one another through chemical reactions in the downstream collision/reaction cell. One such example is the Rb-Sr isotope system that is used for age dating and planned for the laboratory at UCF. Since these isotope systems overlap in mass (mass/charge 85Rb and 87Rb overlaps with 86Sr and 87Sr), it has been virtually impossible to analyze these isotopes within a single sample without complex chemical separation techniques. With the advent of a mass filter in line with a collision/reaction cell this measurement is now possible in-situ with the proposed laser ablation system through mass filtering and chemical shifting within the collision/reaction cell. The mass filter on the Nu Instruments Sapphire XD is “retractable”, meaning that it can be retracted from the main ion beam path when it is not needed for mass shifting. This unique feature avoids any mass bias and magnetic effects that may be imparted on heavy isotope systems, such as the low-level Uranium – Thorium – Lead measurements planned for the return mission samples. Alternative instruments, such as that provided by ThermoFischer Scientific, do not provide a “retractable” mass filter and are therefore subject to mass bias effects that compromise such measurements.

4. Are there resellers or distributors? If yes, please list names and contact information.

No.

5. Will this purchase obligate UCF to this vendor for future purchases such as maintenance, licensing, or continuing need?  Yes  No

If yes, please provide details regarding future obligations and/or needs to include number of years and total spending amount of obligations:

Nu would perform maintenance on the instrument.

6. What efforts have been made to obtain the best pricing available? Please provide an explanation to support the belief that the price is fair and reasonable.

Nu instruments provided a discount for purchasing both the Vitesse and Sapphire XD together.

**From:** [Albert Francis](#)  
**To:** [Joel Levenson](#)  
**Cc:** [Brandon Orofino](#); [Nellie Nido](#); [Brian Sargent](#)  
**Subject:** Re: Review for C0176366: Sole Source-Spectro Analytical Instruments  
**Date:** Wednesday, July 1, 2026 4:15:35 PM  
**Attachments:** [Sole-Source-RCO\\_10865889063392604970 BF Signed.pdf](#)

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I approve as well, attached is the form with my signoff!

Bert

**Bert Francis, CPA**

Interim Vice President / Chief Financial Officer / University Treasurer  
Administration and Finance  
University of Central Florida  
4635 Andromeda Loop N  
MH384  
Orlando, FL 32816  
Tel: (407) 882-1075  
Email: [Albert.Francis@UCF.Edu](mailto:Albert.Francis@UCF.Edu)

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**From:** Joel Levenson <[Joel.Levenson@ucf.edu](mailto:Joel.Levenson@ucf.edu)>  
**Sent:** Friday, June 26, 2026 11:47 AM  
**To:** Albert Francis <[Bert.Francis.III@ucf.edu](mailto:Bert.Francis.III@ucf.edu)>  
**Cc:** Brandon Orofino <[Brandon.Orofino@ucf.edu](mailto:Brandon.Orofino@ucf.edu)>; Nellie Nido <[nellie.nido@ucf.edu](mailto:nellie.nido@ucf.edu)>; Brian Sargent <[Brian.Sargent@ucf.edu](mailto:Brian.Sargent@ucf.edu)>  
**Subject:** RE: Review for C0176366: Sole Source-Spectro Analytical Instruments

Good morning Bert,

I approve of this sole source as well. Research into other products did not find the precision of the instruments required for this research.

Please review and if you approve of the sole source as well, reply all and indicate as such. If you have additional questions, I'm here to help.

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**From:** Brian Sargent <[Brian.Sargent@ucf.edu](mailto:Brian.Sargent@ucf.edu)>  
**Sent:** Friday, June 26, 2026 8:38 AM  
**To:** Joel Levenson <[Joel.Levenson@ucf.edu](mailto:Joel.Levenson@ucf.edu)>  
**Cc:** Brandon Orofino <[Brandon.Orofino@ucf.edu](mailto:Brandon.Orofino@ucf.edu)>; Nellie Nido <[nellie.nido@ucf.edu](mailto:nellie.nido@ucf.edu)>  
**Subject:** FW: Review for C0176366: Sole Source-Spectro Analytical Instruments

Good morning Joel,

I also support this sole source to Nu Instruments for a specialized mass spectrometer. The Physics Department requires a multi-collector inductively coupled plasma mass spectrometer to measure complex mineralogical compositions. Physics researched alternative sources but only the product from Nu Instruments meets the mandatory requirements of the research (dual-mode operation, retractable mass filter, and integrated system compatibility, more below).

Additionally, a search of GovSpend identified two sole sources issued by NIST and NASA for the same equipment.

Please approve/disapprove and let me know if you have any questions.

Regards,

Brian

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**From:** Brandon Orofino <[Brandon.Orofino@ucf.edu](mailto:Brandon.Orofino@ucf.edu)>  
**Sent:** Wednesday, June 24, 2026 11:09 AM  
**To:** Brian Sargent <[Brian.Sargent@ucf.edu](mailto:Brian.Sargent@ucf.edu)>  
**Subject:** Review for C0176366: Sole Source-Spectro Analytical Instruments

Hi Brian,

Please see attached my sole source justification review for C0176366: Sole Source-Spectro Analytical Instruments. I will also include it below in this email for documentation purposes. Please let me know if you have any questions, thanks for your review!

## Sole Source Justification Review:

### I. Background and Description of Need

The UCF Physics Department requires the acquisition of a highly specialized mass spectrometry system to support advanced research involving meteorite and lunar sample analysis. The instrument must provide extremely high precision isotope measurements, advanced mass filtering, and the ability to analyze complex

mineralogical compositions. These capabilities are essential to accurately determine isotopic ratios and age-date extraterrestrial materials, directly supporting ongoing scientific research objectives.

## II. Unique Specifications and Requirements

Based on technical requirements identified by the research team, the instrument must:

- Provide part-per-ten-thousand precision in isotope ratio measurements
- Enable filtering of ion masses to eliminate interference
- Support dual operational modes, including standard analysis and collision/reaction cell mode
- Integrate seamlessly with complementary instruments for combined analytical workflows
- Include advanced ion optics and collector systems to maximize accuracy and minimize mechanical failure

The Nu Instruments Sapphire XD system uniquely satisfies all of these requirements through patented technologies, including dual-mode capability, retractable mass filter functionality, and electrostatic zoom optics. No other commercially available system provides this combination of features.

## III. Market Research Conducted

Extensive market research was conducted to identify potential alternative vendors and solutions. The following manufacturers and systems were evaluated:

- Thermo Fisher Scientific (Neoma MC-ICP-MS)
- IONTOF (M6)
- CAMECA (LEAP 6000 XR Atom Probe)

The evaluation determined:

- The IONTOF M6 and CAMECA LEAP 6000 XR lack the required measurement precision for isotope analysis.

- The Thermo Fisher Neoma system does not provide a dual-mode operation with integrated collision/reaction cell capability nor compatibility with complementary systems from the same manufacturer.
- None of the evaluated alternatives offer a retractable mass filter or the patented dual-mode configuration required for this research.

Accordingly, no other vendor can meet the technical requirements without significant compromises to research outcomes.

#### IV. Determination of Sole Source

Based on the above analysis, Nu Instruments is the only responsible source capable of providing the required equipment. The unique combination of capabilities—particularly the dual-mode operation, retractable mass filter, and integrated system compatibility—are not available from any other manufacturer. Price was not used as a determining factor. The justification is based strictly on the technical and functional requirements necessary to support mission-critical research.

#### V. Supporting Evidence from Comparable Sole Source Procurements

The GovSpend documentation found provides precedent demonstrating similar sole source procurements for highly specialized scientific instrumentation:

1. A National Institute of Standards and Technology (NIST) sole source procurement for a Cameca/Ametek ion microscope spectrometer upgrade shows the necessity of using original equipment manufacturers for proprietary upgrades and system compatibility.<sup>1</sup>
2. A NASA sole source notice for a mass spectrometer acquisition identified Nu Instruments as the only vendor capable of meeting highly specialized technical requirements. The notice explicitly states that market research confirmed no other vendors possessed the required expertise or capability.<sup>2</sup>
3. [1View \\_ GovSpend2.pdf](#) [2View \\_ GovSpend1.pdf](#)

These examples reinforce the validity of the current sole source request by demonstrating that federal agencies routinely determine sole source awards for advanced analytical instrumentation when only one manufacturer can meet mission-critical requirements.

#### VI. Efforts to Ensure Fair and Reasonable Pricing

The department engaged directly with the vendor to obtain pricing and secured a

bundled discount for multiple instrument purchases. Pricing was evaluated against the specialized nature of the equipment, the lack of competition, and comparable federal procurements of similar systems.

Thanks,  
Brandon

# Quotation Time of Flight - ICPMS

## *vitesse*



**Date:** 22nd May 2026  
**Our Reference:** QR26-1139v2  
**To:** **University of Central Florida**

**Price :** Prices are quoted in **USD**. See following pages, which form part of this Quotation.

**Local taxes & duties :** Not included.

**Terms and conditions :** This quotation and pricing is contingent upon (i) Nu Instruments Ltd Terms and Conditions of Sale, as attached to this quotation, applying to the transaction, or (ii) the subsequent negotiation and execution of a mutually acceptable contract (inclusive of mutually acceptable terms and conditions). Nu Instruments Ltd reserves the right to materially adjust its pricing based upon such negotiations. In the event Nu Instruments' Ts&Cs do not govern the sale, or the parties cannot agree upon a mutually acceptable contract, Nu Instruments Ltd reserves the right to withdraw this proposal without prejudice or penalty.

**Additional terms:**

1. The Buyer shall not sell, export or re-export, directly or indirectly, to the Russia Federation or for use in the Russian Federation any goods supplied under or in connection with this order.
2. The Buyer shall undertake its best efforts to ensure that the purpose of paragraph (1) is not frustrated by any third parties further down the commercial chain, including by possible resellers.
3. The Buyer shall set up and maintain an adequate monitoring mechanism to detect conduct by any third parties further down the commercial chain, including by possible resellers, that would frustrate the purpose of paragraph (1).
4. Any violation of paragraphs (1), (2) or (3) shall entitle Seller to seek appropriate remedies, including, but not limited to: termination of the business relationship; and recovery of any losses resulting from such a breach, or the price of the goods exported, whichever is higher.
5. The Buyer shall immediately inform the Seller about any problems in applying paragraphs (1), (2) or (3), including any relevant activities by third parties that could frustrate the purpose of paragraph (1). The Buyer shall make available to the Seller information concerning compliance with the obligations under paragraph (1), (2) and (3) within two weeks of the simple request of such information.

**Prices quoted are :** Prices are quoted in **USD**. See following pages, which form part of this Quotation.  
*Please be advised that Nu Instruments will, to the extent not contractually prohibited, increase prices for its products due to any increased costs imposed upon Nu for or related to any additional duties, tariffs or restrictions on products that result from any governmental action or regulation including, without limitation, those contemplated by an investigation under Section 232 of the Trade Expansion Act of 1962 (19 U.S.C. §1862) or those contemplated by an investigation under Section 301 of the Trade Act of 1974 (19 U.S.C. §2411), or on any raw materials that are used in making such products. Any outstanding quotes, price lists, or similar items should be understood to be subject to update in accordance with this notice.*

**Quotation validity :** 60 days.

**Terms of payment :** 70 % payable at the time of order by transfer to our account.  
20 % payable at delivery against shipping documents,  
10 % payable after successful installation and signature of acceptance certificate.

Payment net 30 days from invoice by ACH/Wire transfer

**Export License :** The export of this product is subject to export authorization (export licence approval) according to the final destination. Nu Instruments Ltd will bear no liability due to refusal of export authorization (export licence refusal) by the UK licensing authorities.

The End-User will be required to provide all requested information and complete forms necessary to obtain this export authorization.

**Estimated shipment:** 5 months from receipt of order

**Delivery:** CIP (Main Airport), Incoterms 2020  
Includes onwards delivery to End User Site

**Installation :** Installation and commissioning of the Goods will commence at a mutually agreed time between the End-User and Nu Instruments Ltd and will commence when the End-User's site is in accordance with the requirements detailed in the relevant Nu Instruments' published Site Requirements document. Unless previously and mutually agreed in writing between the End-User and Nu Instruments Ltd, should the installation be delayed by the customer for >3 months after the contractual delivery date, Nu Instruments Ltd reserves the right to invoice the remaining balance outstanding.

**Training :** Standard training in the operation and maintenance of the Goods will commence at the End-User's site after the commissioning and testing of the Goods has been completed.

**Warranty :** Warranty will commence on the earlier of: (1) the acceptance of Goods by the Customer, or (2) 90 days from the time of shipment if installation and acceptance are delayed by no cause of the Nu Instruments Ltd, unless previously and mutually agreed in writing between the End-User and Nu Instruments Ltd.

**Country of Origin:** UK

**Quotation Prepared by:** Paul Warburton, Nu Instruments Ltd

VITESSE TOF-ICPMS				
ITEM	QTY	ITEM DESCRIPTION	UNIT PRICE	LINE TOTAL
01	1 system	<p><b>Vitesse Time of Flight ICP-MS comprising:</b></p> <p><b>Plasma Ion Source and Interface:</b></p> <ul style="list-style-type: none"> <li>- 27 MHz, 1.6 kW RF generator.</li> <li>- Standard Plasma Torch manufactured from high quality quartz glass (Fassel Design) with 1.8 mm injector tube. The torch design is compatible with alternative sample introduction systems such as laser ablation, hydride generators and desolvation nebulisers.</li> <li>- The torch is fully software adjustable in X-, Y-, and Z-direction.</li> <li>- The spray chamber system is located outside of the source enclosure, and consists of a cyclonic, Peltier-cooled spray chamber system.</li> <li>- Glass concentric nebulizer with nominally 400 µl/min. uptake rate.</li> </ul> <p><i>Note that the spray chamber, elbow and nebulizer are made of borosilicate glass. Optional quartz and PFA versions of these components are available, contact Nu Instruments for additional information and pricing.</i></p> <ul style="list-style-type: none"> <li>- Four gas flow controllers. Three of them are calibrated for Argon and are used for the plasma and the nebulizer gas. The fourth gas flow controller is incorporated for use with alternative sample introduction systems such as laser ablation systems.</li> <li>- Ni cones are supplied as standard but cones made of other materials (e.g. platinum-tipped) are available.</li> <li>- Four channel, built-in peristaltic pump.</li> <li>- Computer-controlled ion optics for beam focusing and steering for optimum transmission.</li> </ul> <p><b>Ion Beam Attenuator (IBA):</b></p> <ul style="list-style-type: none"> <li>- Patented physical ion beam attenuator to extend the dynamic range of the instrument.</li> <li>- Ability to run segmented analytical methods with an unattenuated ion beam and two additional attenuations.</li> </ul> <p><b>Overpulsing Operation:</b></p> <ul style="list-style-type: none"> <li>- Ability to acquire at up to 200kHz with reduced mass range.</li> <li>- Increases sensitivity by up to 5 times.</li> </ul> <p><b>Ultra-High Speed Data Acquisition:</b></p> <ul style="list-style-type: none"> <li>- Reduces minimum spectra save time to &lt;80µs.</li> <li>- Optimised for nanoparticle and single cell analyses.</li> <li>- Enables the single particle mode data processing modules to be used.</li> </ul> <p><b>Vacuum System:</b></p> <ul style="list-style-type: none"> <li>- High compression turbomolecular pumps and a high displacement mechanical pump.</li> <li>- Air-operated isolation valve between interface and analyser. No</li> </ul>		INCLUDED

venting of instrument for service or cleaning of interface region.

- Vacuum system is fully protected with turbo pumps isolated from the mechanical pump by automated valves for protection of the vacuum system on power failure.

**Segmented Reaction Cell (SRC):**

- A segmented multi-pole reaction cell for interference removal.
- Off-axis design prevents cell being contaminated and gives greater control to cell chemistries.
- 2 channel mass flow controller gas modules with a vacuum evacuation port to provide fast gas changes.
  - A gas purification cartridge fitted on one channel to remove contaminants from a H<sub>2</sub>/He stream down to ppb levels.

**Time of Flight Analyser (TOF):**

- A high duty cycle time-of-flight mass analyser able to acquire full mass spectra at >35kHz.
- Ability to physically resolve many interferences as a compliment to the interference removal of the SRC.

**Detector System:**

- Wide dynamic range MagneTOF detector with high gain stability.
- Detector design optimized for easy exchange of multipliers.
- Automated protection from over-range signals.
- Standard minimum spectra save time of <1ms.

**Laser Automation and Connection Kit:**

- Includes capillary inlet connection with gas make up port compatible with the standard Vitesse torch injector.

Software automation for Teledyne Iridia and ESL NWR laser systems.

**Embedded Computer System:**

- Dedicated to instrument control and data acquisition.
- High performance PC (i7 or Xeon equivalent), high performance graphics card, 32GB RAM, 1Tb Solid State hard drive, 2 ethernet ports.
- 24" TFT 1080p LCD monitor.
- MS Windows 11 64-bit operating system.

**Software:**

- PC-based, multi-tasking CoDAQ Vitesse software package for instrument control with data acquisition and processing package.

**Additional PC:**

- Intel i7 PC, 32Gb RAM, 512Gb SSD (OS), 3Tb SATA (Data), DVD-RW, 2 ethernet ports,
- 24" 1920x1080p LCD monitor,
- MS Windows 11 64-bit and MS Office Pro.

*NOTE: An additional PC must be used to run any 3<sup>rd</sup> party software or to use a company network with local security policies. The Vitesse embedded PC would be accessed through the second ethernet port which would not have access to the company network if local policy prevents this.*

*NOTE: An optional second PC can be ordered if other software such as MS Office or 3<sup>rd</sup> party software needs to be installed. Data is shared between the embedded PC and desktop PC for additional off-line data processing.*

**Water Cooling System:**

- A single recirculating cooler for the interface and turbos. Remote controlled to switch on with the plasma.

	<p><b>Including:</b></p> <ul style="list-style-type: none"> <li>- General spares and consumables kit (1 Year).</li> <li>- Installation and tool kit.</li> <li>- Packing suitable for export.</li> <li>- Site installation and commissioning.</li> </ul> <p><b>Training:</b></p> <ul style="list-style-type: none"> <li>- Standard User training (3 days) by an OEM Engineer during instrument installation at Customers Site.</li> </ul> <p><b>Warranty:</b></p> <ul style="list-style-type: none"> <li>- 12 months warranty from Site Acceptance.</li> </ul>		
<b>price subTotal (Item 01)</b>			<b>\$487,848</b>
<b>Import Tariff to the USA -currently 10%, but may be subject to change</b>			<b>\$48,785</b>
<b>The supplied items will be drop shipped from the UK, associated import tariffs will apply.</b>			
<b>Delivery (CIP Main Airport). Includes, freight and insurance to End User Site unloading dock</b>			<b>\$14,612</b>
<b>Total price for (items 01)</b>			<b>\$551,245</b>

<b>VITESSE Options and Accessories</b>				
<b>ITEM</b>	<b>QTY</b>	<b>ITEM DESCRIPTION</b>	<b>UNIT PRICE</b>	<b>LINE TOTAL</b>
02	1	<p><b>Four MFC Reaction Gas Controller Upgrade:</b></p> <ul style="list-style-type: none"> <li>- Replaces standard 2 MFC controller with a 4 MFC controller to provide extra flexibility in the use of reaction gases.</li> <li>- Addition of a second gas purification cartridge.</li> </ul>	\$13,261	
03	1	<p><b>Vitesse QCT Pre-Quad Option:</b></p> <ul style="list-style-type: none"> <li>- Addition of a full-size quadrupole filter before the SRC to permit higher levels of selectivity for cell chemistries.</li> <li>- Ability to pass a range of ions in segments up to 14 amu of the mass range or single ions in a user definable manner.</li> <li>- Patented by-pass ion-optics for full mass range transmission to the SRC without mass bias.</li> </ul>	\$51,005	

## Terms and Conditions


**Prices include:** Hardware and software as detailed above, transportation and insurance cover to loading dock and installation at your site, training, 12 months warranty.

**Prices exclude:** Laboratory preparation and services. Lifting equipment for the magnet to specification detailed in site services document. Insurance cover once the instrument reaches your site. Federal, state and local taxes and Import charges.

**Installation:** Installation will only commence after Nu Instruments have been assured that the site has been prepared in accordance with the site-planning guide.

**Warranty:** The warranty period for the system is 12 months from acceptance. Nu Instruments will replace free of charge any parts or constructional defects, which become apparent during this period, provided that it is not a result of incorrect usage. Consumable items are excluded from the warranty but spares of these items will be provided with the instrument.

Product contains a **carcinogen** and a **reproductive toxicant**

 **WARNING:** This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and Antimony Trioxide which is known to the State of California to cause birth defects or other reproductive harm.

For more information go to [www.P65Warnings.ca.gov/](http://www.P65Warnings.ca.gov/).

**NOTE:** Please write all orders to the address:

**SPECTRO Analytical Instruments Inc.**  
50 Fordham Road  
Wilmington, MA 01887

**AMETEK, Inc.**  
**TERMS AND CONDITIONS OF SALE**

THE FOLLOWING TERMS/CONDITIONS, TOGETHER WITH ANY OTHER TERMS/CONDITIONS SPECIFICALLY AGREED TO IN WRITING BY SELLER, SHALL APPLY TO ALL ORDERS ("Order(s)") FROM, AND SALES OF PRODUCTS ("Products") OR SERVICES ("Services") TO BUYER. ANY ACCEPTANCE OF ANY ORDER OF BUYER IS CONDITIONED UPON THESE TERMS/CONDITIONS. ANY ADDITIONAL OR DIFFERENT TERMS/CONDITIONS PROPOSED BY BUYER IN ANY DOCUMENT ARE OBJECTED TO AND SHALL NOT BE BINDING UPON SELLER. No salesperson is authorized to bind Seller to any promise or understanding not expressed herein.

**I. PRICES** All prices are subject to change without notice in the event of any changes in cost of materials or labor, specifications, quantities, delivery schedules, customs duties, other factors beyond Seller's control, or in the event of delays caused by instructions of the Buyer, or failure of the Buyer to give Seller adequate information. Further, prices payable by the Buyer shall be subject to immediate increase, should the Seller as a result of governmental action or regulation including, without limitation, those contemplated by an investigation under Section 232 of the Trade Expansion Act of 1962 (19 U.S.C. §1862) or those contemplated by an investigation under Section 301 of the Trade Act of 1974 (19 U.S.C. §2411), incur additional duties, tariffs or restrictions on products sold hereunder, or on the raw materials that are used in making such products. In no event shall prices include any amounts imposed on the Buyer in connection with Buyer's purchases from Seller, such as taxes, including but not limited to Value Added Tax (VAT) or excise taxes, duties, tariffs, or any other costs assessed against the Buyer by a governmental authority. Without limiting the foregoing, all prices are subject to adjustment without notice at any time prior to shipment in the event that the prices or costs related to any component, materials, parts, or commodities utilized in the Products or Services have increased following the acceptance of any Order for any Products or Services (a "Component Adjustment"). Any Component Adjustment, as determined by Seller, shall be reflected in the invoice for Products or Services that is transmitted from Seller to Buyer in accordance with the terms and conditions hereof. Without limiting the foregoing, all prices are subject to adjustment without notice at any time prior to shipment due to increases in inflation occurring following the acceptance of any Order for any Products or Services (an "Inflation Adjustment"). The Inflation Adjustment for any Products or Services shall be made by multiplying (a) the ratio obtained by *dividing* the (i) Consumer Price Index (CPI) in place at the time of invoice by (ii) the Consumer Price Index (CPI) in effect at the time of acceptance of an Order times (b) the price or cost for any applicable Products/Services as set forth in the Order. Any Inflation Adjustment, as determined by Seller, shall be reflected in the invoice for Products or Services transmitted from Seller to Buyer in accordance with the terms and conditions hereof.

**II. DELIVERY** Delivery dates are approximate and are dependent on prompt receipt by Seller of all necessary information. Seller may deliver all or any part of Products/ Services as early as 30 days in advance of agreed schedule. The point of delivery shall be FCA Seller's premises, unless otherwise specified by Seller. Upon delivery, title to Products and all risk of loss or damage thereto shall pass to Buyer. Where Buyer notifies Seller that it cannot take timely delivery of the Products, Seller may place such Products in storage, at the risk of Buyer, and Buyer shall reimburse Seller for all expenses incurred in connection with such storage. Buyer shall dispose of the packing materials for Products at its own expense, and shall defend, indemnify and hold harmless Seller from any legal obligations in connection with such packing waste.

**III. PAYMENT** A. The term of payment shall be net 30 days from date of Seller's invoice, unless otherwise specified. Payments shall be made by Buyer without any deduction or set-off. Unless otherwise agreed, payment shall be made in U.S. dollars. Seller may charge late payment fees at the rate of 1.5% per month, or the highest rate permitted by law, whichever is less, accruing daily. B. If the financial condition of Buyer is unsatisfactory to Seller, Seller may require full or partial payment in advance, or satisfactory security, in the form of a letter of credit or otherwise. In the event of bankruptcy or insolvency of Buyer, Seller may immediately cancel any Order then outstanding. C. Buyer grants Seller a purchase money security interest in Products located in the United States, or Services, as well as any proceeds, for the purpose of securing the obligations of Buyer hereunder. Buyer authorizes Seller to execute on Buyer's behalf and file such financing statements as Seller deems appropriate to perfect and notify Buyer's creditors of Seller's security interest.

**IV. VARIATIONS IN QUANTITY; CHANGES.** Buyer shall accept delivery of quantities greater or smaller than the quantity specified in Order(s), provided that any such variation shall not exceed 5% of the quantity originally specified, or 2 units, whichever is greater. Seller shall not be required to give notice of any such variations other than in the applicable shipping notice and invoice. Seller reserves the option to make changes to Products or Services which do not affect form, fit, or function, and shall deliver Products to the latest configuration part number at the time of delivery. No Order may be terminated in whole or part without Seller's prior express written consent, which consent shall be in Seller's sole discretion.

**V. EXPORT CONTROLS; SANCTIONS; FCPA; UKBA; ANTI-BOYCOTT AND UKCFA**

A. Buyer shall not make any disposition of the Products, by way of transshipment, re-export, diversion or otherwise, except as applicable U.S. export and sanctions laws and regulations may expressly permit, and other than in and to the ultimate country of destination specified on Order(s) or declared as the country of ultimate destination on Seller's invoices or in the End Use Statement that Buyer supplies Seller. Seller shall submit export clearance filings based on end use and end user information that Buyer provided to Seller. Failure of Buyer to comply with the requirements specified in this section shall constitute a material default allowing Seller to cancel related Order(s) without liability.

B. Buyer warrants that it shall not violate or cause the Seller to violate the U.S. Foreign Corrupt Practices Act of 1977 (FCPA), as amended, the United Kingdom Bribery Act (UKBA) of 2010, as amended, or their respective implementing regulations in connection with Buyer's sale or distribution of the Products and/or Services. Buyer also warrants that Buyer does not know or have reason to believe that any consultant, agent, representative or other person retained by Buyer in connection with the sale and/or distribution of Products/Services has violated, nor caused Seller to violate the FCPA and/or the UKBA. Where Buyer learns of or has reason to know of any violation of FCPA and/or UKBA in connection with the sale or distribution of Products/Services, Buyer shall immediately advise Seller.

C. Buyer further warrants that Buyer shall not violate or cause Seller to violate the U.S. Antiboycott Provisions of the U.S. Export Administration Regulations issued pursuant to the U.S. Export Administration Act of 1979, as amended, in connection with Buyer's purchase of Products/Services and that Buyer shall not request or require Seller to make statements or certifications against countries that are not subject to boycott by the U.S.

D. Buyer shall not facilitate tax evasion or fail to prevent tax facilitation in the UK or other countries in accordance with the requirements of the UK Criminal Facilitation Act (UKFCA).

**VI. WARRANTIES** A. Seller warrants that Products manufactured by Seller, when delivered, shall be free from defects in material/workmanship. Seller warrants that Services shall be performed in accordance with generally accepted industry practice. Seller's obligations under this warranty shall be limited exclusively to repairing or replacing, at Seller's option, any part of Products which, if properly installed, used and maintained, proved to have been defective in material or workmanship within 1 year from the date of shipment, or re-performing the Services. Seller warrants for a period of 1 year from the date of shipment that software or firmware, when used with

Products, shall perform in accordance with Seller's published specifications. Seller makes no warranty, express or implied, that the operations of the software or firmware shall be uninterrupted or error-free, or that functions contained therein shall meet or satisfy the Buyer's intended use/requirements. Buyer shall notify Seller of any defect in the quality or condition of Products (including software/firmware) or Services within 7 days of the date of delivery or performance, unless the defect was not apparent on reasonable inspection, in which case, within 7 days after discovery of the defect. If Buyer does not provide such timely notification, it shall not be entitled to reject Products (including software/firmware) or Services, and Seller shall have no liability for such defect.

B. Seller's warranty obligations shall not apply to Products which (1) have been altered or repaired by someone other than Seller, or (2) have been subjected to misuse, neglect, or improper use or application, or (3) are normally consumed in operation, or (4) have a normal life inherently shorter than the warranty period stated therein.

C. No Products may be returned unless authorized in advance by Seller, and then only upon such conditions to which Seller may agree. Buyer must obtain a Return Material Authorization (RMA) number from Seller prior to any return shipment, and such RMA number must appear on the shipping label and packing slip. Buyer shall be responsible for returned Products until such time as Seller receives the same at its facility, and for all charges for packing, inspection, shipping, transportation or insurance associated with returned Products.

D. This section VI sets forth the exclusive remedies and obligations for claims based upon defects in or nonconformity of Products/Services, whether the claim is in contract, warranty, tort (including negligence of any degree or strict liability) or otherwise. **THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL, WRITTEN, EXPRESS, IMPLIED OR STATUTORY. NO IMPLIED OR STATUTORY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE SHALL APPLY.**

**VII. PATENTS/INDEMNITY** If Buyer receives a claim that Products, or part thereof manufactured by Seller infringes a patent, Buyer shall notify Seller promptly in writing and give Seller information, assistance and exclusive authority to evaluate, defend and settle such claim. Where Buyer has furnished specifications/designs for the manufacture of the allegedly-infringing Products, Buyer shall defend, indemnify and hold harmless Seller against third-party claims for infringement arising out of Seller's use of such specifications/designs.

**VIII. LIMITATION OF LIABILITY**

The total liability of Seller on any claim, whether in contract, tort (including negligence of any degree and strict liability) or otherwise arising out of, connected with, or resulting from the manufacture, sale, delivery, resale, repair, replacement or use of any Products/Services, shall not exceed the price allocable to the Products/Services or part thereof which gives rise to the claim. **IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, TORT, (INCLUDING NEGLIGENCE OF ANY DEGREE, STRICT LIABILITY OR PATENT INFRINGEMENT) OR OTHERWISE, SHALL SELLER, ITS AFFILIATES, SUBCONTRACTORS, OR SUPPLIERS BE LIABLE FOR ANY LOSS OF PROFIT OR REVENUES, LOSS OF USE OF THE PRODUCTS OR SERVICES, OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF SUBSTITUTE GOODS, FACILITIES, SERVICES OR REPLACEMENT POWER, DOWNTIME COSTS OR CLAIMS OF BUYER'S CUSTOMERS FOR DAMAGES OR FOR ANY SPECIAL, PROXIMATE, CONSEQUENTIAL, INCIDENTAL, INDIRECT OR EXEMPLARY DAMAGES.** If Buyer transfers title to, or leases Products sold hereunder to, or otherwise permits or suffers use by, any third party, Buyer shall obtain from such third party a provision affording Seller and its subcontractors/suppliers the protection of the preceding sentence. Any action against Seller must be brought within 18 months after cause of action accrues.

**IX. EXCUSABLE DELAYS** A. Seller shall not be liable for delays in delivery or failure to perform due directly or indirectly to causes beyond Seller's reasonable control including but not limited to: acts of God; war; terrorism; civil commotion; riots; embargoes; government regulations, export license denials, port congestion; acts of or failure to act on the part of Buyer or its agents/employees; fires; floods; sabotage; nuclear incidents; earthquakes; storms; epidemics; pandemics; government action or orders; strikes; lockouts or other labor difficulties; shortages of or inability to timely obtain proper labor, materials, components, shipping space or transportation, fuel, supplies or power at current prices; or due to limitations imposed by the extent of availability of Seller's normal manufacturing facilities.  
B. If a delay excused per the above extends for more than 90 days and the parties have not agreed upon a revised basis for continuing providing Products/Services at the end of the delay, including adjustment of the price, then either party (except where delay is caused by Buyer, in which event only Seller) upon thirty (30) days' notice may terminate the Order with respect to the unexecuted portion of the Products/Services, whereupon Buyer shall promptly pay Seller its reasonable termination charges upon submission of Seller's invoices thereof.

**X. SOFTWARE/TECHNICAL/PROPRIETARY INFORMATION** A. Buyer shall not acquire any rights to any software which may be delivered with Products, except as granted in Seller's standard software license. Any software license granted in connection with Products shall be an interim license, which may be withdrawn, pending payment for Products in full.

B. The purchase of Products shall not include any right to supply of technical information such as drawings or specifications.

C. Proprietary information, including drawings, documents, technical data, reports, software, designs, inventions and other technical information supplied by Seller in connection herewith (hereinafter called "Data"), shall remain Seller's sole property and shall be held in confidence by Buyer. Data shall not be reproduced, used or disclosed to others by Buyer without Seller's prior written consent. Upon completion of Order, Buyer shall promptly return all Data to Seller together with all copies or reprints thereof then in Buyer's possession or control, and Buyer shall thereafter make no future use, either directly or indirectly, of any Data or any information derived therefrom without Seller's prior written consent. The foregoing shall in no way obligate Seller to provide or supply Data.

**XI. DIES, TOOLS, PATTERNS** Seller's charges for dies, molds, patterns and the like represent the Buyer's proportionate cost thereof, it being expressly understood that they remain the property of Seller. Modifications made to dies, molds, patterns and the like in order to manufacture Products shall be at the discretion of Seller.

**XII. GENERAL** A. The rights and obligations of the Buyer and Seller hereunder shall be governed in all respects by the law of the Commonwealth of Pennsylvania, U.S.A. The exclusive forum for adjudication of any disputes shall be the federal or state courts of the Commonwealth of Pennsylvania, and Buyer/Seller hereby consent to personal jurisdiction and venue in such courts in any proceeding. The United Nations Convention on the International Sale of Goods shall not apply.

B. These Terms and Conditions of Sale together with any other terms specifically agreed to in writing by Seller constitute the entire agreement between Buyer and Seller and supersede any prior or contemporaneous representations, agreements, proposals, warranties, or understandings, oral or written, express or implied. No waiver, modification, amendment, rescission or other change to these Terms and Conditions of Sale shall be binding unless specifically agreed to in writing by an authorized representative of Seller.

C. The invalidity, of any part hereof shall not affect the validity of the remainder. The failure of Seller to assert any

right at any time hereunder shall not prevent Seller's subsequent assertion of the same or different rights.  
D. Buyer may not assign this contract without the prior written approval of the Seller.

**XIII. PROHIBITION FOR HAZARDOUS USE**

Buyer understands and agrees that Products sold hereunder are not intended for application in, and shall not be used by Buyer in the construction or operation of a nuclear installation, a nuclear facility or a nuclear reactor or in connection with use or handling of nuclear material or for any hazardous activity or critical application, where failure of a single component could cause substantial harm to persons or property, unless Products have been specifically approved by Seller for such activity or application. Seller disclaims all liability for loss or damage resulting from such unauthorized use and Buyer shall defend, hold harmless and indemnify Seller against any such liability, whether arising under breach of contract, warranty, tort (regardless of the degree of fault or negligence), strict liability or otherwise.

Where Seller approves the application of the Products in a nuclear facility, the Buyer shall, before the use or provision of such Products, execute a Nuclear Defense and Indemnification Agreement in a form acceptable to Seller.

**XIV. STATUTORY REQUIREMENTS**

Seller reserves the right to make any changes in the general specifications of the Products which are required for the Products to conform to any statutory requirement.

**XV. GOVERNMENT CONTRACTS**

Only Federal Acquisition Regulation ("FAR") supplement clauses expressly accepted in writing by Seller shall be included or incorporated by reference herein. Seller shall not be bound by and makes no representation of compliance with any FAR or FAR supplement clauses that Seller shall not have expressly accepted in writing.

**XVI. INVOICE FRAUD PREVENTION**

Given the increased risk of invoice fraud, Buyer should treat any notification to change details of Seller's bank account with suspicion. Seller will not inform or instruct Buyer to make remittance or money transfers to any other beneficiary, address or bank account via email. Always verify a request to update records or change bank account information BEFORE implementing a change or completing the payment. Verify any requested changes by speaking to a known Seller representative.

Quotation  
Dual Path Multi-Collector ICP-MS/MS with  
Collision Reaction Cell

*Sapphire XD*



**Date:** 22nd May 2026  
**Nu Reference:** QR26-1138v2  
**Quoted to:** University of Central  
Florida

Price	Prices are quoted in USD. See following pages, which form part of this quotation.
Local Taxes & Duties	Not included.
Terms and Conditions	This quotation and pricing is contingent upon (i) Nu Instruments Ltd Terms and Conditions of Sale, as attached to this quotation, applying to the transaction, or (ii) the subsequent negotiation and execution of a mutually acceptable contract (inclusive of mutually acceptable terms and conditions). Nu Instruments Ltd reserves the right to materially adjust its pricing based upon such negotiations. In the event Nu Instruments' Ts&Cs do not govern the sale, or the parties cannot agree upon a mutually acceptable contract, Nu Instruments Ltd reserves the right to withdraw this proposal without prejudice or penalty.
Additional Terms	<ol style="list-style-type: none"> <li>1. The Buyer shall not sell, export or re-export, directly or indirectly, to the Russia Federation or for use in the Russian Federation any goods supplied under or in connection with this order.</li> <li>2. The Buyer shall undertake its best efforts to ensure that the purpose of paragraph (1) is not frustrated by any third parties further down the commercial chain, including by possible resellers.</li> <li>3. The Buyer shall set up and maintain an adequate monitoring mechanism to detect conduct by any third parties further down the commercial chain, including by possible resellers, that would frustrate the purpose of paragraph (1).</li> <li>4. Any violation of paragraphs (1), (2) or (3) shall entitle Seller to seek appropriate remedies, including, but not limited to: termination of the business relationship; and recovery of any losses resulting from such a breach, or the price of the goods exported, whichever is higher.</li> <li>5. The Buyer shall immediately inform the Seller about any problems in applying paragraphs (1), (2) or (3), including any relevant activities by third parties that could frustrate the purpose of paragraph (1). The Buyer shall make available to the Seller information concerning compliance with the obligations under paragraph (1), (2) and (3) within two weeks of the simple request of such information.</li> </ol>
Prices quoted are	<p>Prices are quoted in <b>USD</b>. See following pages, which form part of this Quotation.</p> <p><i>Please be advised that Nu Instruments will, to the extent not contractually prohibited, increase prices for its products due to any increased costs imposed upon Nu for or related to any additional duties, tariffs or restrictions on products that result from any governmental action or regulation including, without limitation, those contemplated by an investigation under Section 232 of the Trade Expansion Act of 1962 (19 U.S.C. §1862) or those contemplated by an investigation under Section 301 of the Trade Act of 1974 (19 U.S.C. §2411), or on any raw materials that are used in making such products. Any outstanding quotes, price lists, or similar items should be understood to be subject to update in accordance with this notice.</i></p>
Quotation Validity	60 days.
Terms of Payment	<p>70 % payable at the time of order by transfer to our account.</p> <p>20 % payable at delivery against shipping documents.</p>

10 % payable after successful installation and signature of acceptance certificate.

Payment

Payment net 30 days from invoice. by ACH/Wire transfer

Export License

The export of this product is subject to export authorization (export licence approval) according to the final destination. Nu Instruments Ltd will bear no liability due to refusal of export authorization (export licence refusal) by the UK licensing authorities.

The End-User will be required to provide all requested information and complete forms necessary to obtain this export authorization.

Estimated Shipment

10 months from receipt of order.

Delivery

CIP End User Site

Installation

Installation and commissioning of the Goods will commence at a mutually agreed time between the End-User and Nu Instruments Ltd and will commence when the End-User's site is in accordance with the requirements detailed in the relevant Nu Instruments' published Site Requirements document. Unless previously and mutually agreed in writing between the End-User and Nu Instruments Ltd, should the installation be delayed by the customer for >3 months after the contractual delivery date, Nu Instruments Ltd reserves the right to invoice the remaining balance outstanding.

Training

Standard training in the operation and maintenance of the Goods will commence at the End-User's site after the commissioning and testing of the Goods has been completed.

Warranty

Warranty will commence on the earlier of: (1) the acceptance of Goods by the Customer, or (2) 90 days from the time of shipment if installation and acceptance are delayed by no cause of the Nu Instruments Ltd.

Country of Origin

UK

Quotation prepared by

Paul Warburton, Nu Instruments Ltd

## Sapphire XD – Main Instrumentation

Item #	Quantity	Item Description	Unit Price]	Total
01	1 System	<p><b>Flexible High Sensitivity ICP Source and Interface</b></p> <ul style="list-style-type: none"> <li>▪ Versatile coupling mechanism for flexible sample introduction.</li> <li>▪ Water-cooled frequency-tuning 27 MHz 2.0 kW RF generator.</li> <li>▪ Argon plasma torch with 3-axis computer-controlled adjustment.</li> <li>▪ Microcyclic Peltier-cooled spray chamber system.</li> <li>▪ Three mass flow controlled ICP gas supplies.</li> <li>▪ One additional mass flow controller for Ar.</li> <li>▪ Computer-controlled multiple-channel peristaltic pump.</li> <li>▪ Plasma shield for sensitivity boost</li> <li>▪ Latest Enhanced Sensitivity Interface               <ul style="list-style-type: none"> <li>○ 1 x 120 m<sup>3</sup>/h interface dry pump.</li> </ul> </li> </ul> <p><b>Retractable Pre-Dual Path Mass Filter</b></p> <ul style="list-style-type: none"> <li>▪ Compact symmetrical Double Wien Filter with Lens Field Array.</li> <li>▪ Software-controlled mass defining slit.</li> <li>▪ 2 sets of magnets 260mT &amp; 595mT</li> </ul> <p><b>Dual Path Transfer Optics</b></p> <ul style="list-style-type: none"> <li>▪ Software-switchable ion deflection between Conventional and Collision/Reaction Cell ion beam path.</li> </ul> <p><b>Collision/Reaction Cell</b></p> <ul style="list-style-type: none"> <li>▪ Hexapole Collision/Reaction Cell with 4 software-controlled mass flow controllers.               <ul style="list-style-type: none"> <li>○ Mass flow controllers calibrated for He, H<sub>2</sub>, O<sub>2</sub> &amp; N<sub>2</sub></li> </ul> </li> </ul> <p><b>(Pseudo-)High Resolution System</b></p> <ul style="list-style-type: none"> <li>▪ Partial (pseudo) or full resolution of overlapping peaks for interference-free measurements with maintained peak flats.</li> <li>▪ Software-controlled 3-width source slit and variable alpha slits.</li> </ul> <p><b>Electrostatic and Magnetic Analyser Section</b></p> <ul style="list-style-type: none"> <li>▪ 35 cm radius electrostatic analyser.</li> <li>▪ 25 cm radius laminated magnet.</li> <li>▪ Double-focusing instrument geometry.</li> <li>▪ Computer controlled zoom optics for dispersion adjustment of isotopic systems from Li to U.</li> </ul> <p><b>Faraday Collector Array</b></p> <ul style="list-style-type: none"> <li>▪ 28 channel fixed Faraday collector array with associated pre-amplifiers.               <ul style="list-style-type: none"> <li>○ One switchable 10<sup>11</sup> Ω/10<sup>10</sup> Ω resistor preamplifier.</li> </ul> </li> </ul>		included

		<ul style="list-style-type: none"> <li>○ All remaining 27 pre-amplifiers are fitted with a <math>10^{11} \Omega</math> resistor each unless otherwise stated below.</li> </ul>		
		<p><b>Instrument Control Computer and Software</b></p> <ul style="list-style-type: none"> <li>▪ PC system: Intel Core Ultra 5 CPU, 16GB DDR5 RAM, 256GB SSD, 8x DVD-ROM, keyboard and mouse, Windows 11 &amp; MS Office (Home and Business).</li> <li>▪ Monitor: 24" 1080p IPS LCD,</li> <li>▪ Printer: Monochrome A4.</li> <li>▪ New multitasking <b>Codaq</b> instrument control software suite.</li> <li>▪ Remote control software for factory support and diagnostics.</li> <li>▪ Windows 10 &amp; MS Office (Home and Business).</li> </ul>		
		<p><b>Cooling and High-Vacuum Systems</b></p> <ul style="list-style-type: none"> <li>▪ 2 x air-/water-cooled water recirculating chillers: <ul style="list-style-type: none"> <li>○ 1 x for cooling of interface, load coil and RF generator.</li> <li>○ 1 x for cooling of turbomolecular pumps.</li> </ul> </li> <li>▪ High performance pumping system consisting of 6 x Edwards turbomolecular pumps and 2 x dry scroll rotary backing pumps.</li> </ul>		
		<p><b>Electronics</b></p> <ul style="list-style-type: none"> <li>▪ Programmable voltage and magnet supplies.</li> <li>▪ 28 channel programmable DVM.</li> <li>▪ Programmable plasma control unit.</li> <li>▪ On-board system control unit.</li> </ul>		
		<p><b>Additional Items &amp; Installation</b></p> <ul style="list-style-type: none"> <li>▪ Full bake out ovens and heaters.</li> <li>▪ General spares and consumables kits for 1 year(s).</li> <li>▪ Laser interface kit.</li> <li>▪ Installation and Tool kit.</li> <li>▪ Site installation and commissioning.</li> </ul>		
		<p><b>Training</b></p> <ul style="list-style-type: none"> <li>▪ Standard user training (5 days) by a Nu Instruments UK engineer during installation at customer site.</li> </ul>		
		<p><b>Warranty</b></p> <ul style="list-style-type: none"> <li>▪ 12 months warranty from Site Acceptance.</li> </ul>		

## Sapphire XD – Options and accessories

Item #	Quantity	Item Description	Unit Price]	Total]
02	3	<p><b>SEM Ion Counting Multiplier</b></p> <ul style="list-style-type: none"> <li>▪ Supply of a discrete dynode secondary electron multiplier with associated post Faraday ion deflection optics, ion counting voltage supply and pre-amplifier electronics.</li> </ul>		included

03	3	<b>Daly Detector</b> <ul style="list-style-type: none"> <li>Supply of a Daly Detector with associated post Faraday ion deflection optics, ion counting voltage supply and pre-amplifier electronics.</li> </ul>	included
04	13	<b>Switchable preamplifier 10<sup>10</sup> Ω or 10<sup>12</sup> Ω</b> <ul style="list-style-type: none"> <li>Inclusion of a switchable preamp within the 28 channel pre-amplifier bin capable of switching between 2 on-board resistors; one resistor of 10<sup>11</sup> Ω and second resistor choice of 10<sup>10</sup> Ω or 10<sup>12</sup> Ω.</li> </ul>	included
<b>Total – Main Instrumentation (b items 01-04)</b>			\$1,027,626
<b>Import Tariff to the USA -currently 10%, but may be subject to change</b>			\$102,763
<b>The supplied items will be drop shipped from the UK, associated import tariffs will apply.</b>			
<b>Delivery – CIP End User Site</b>			\$18,034
<b>Total including delivery to end user site</b>			\$1,148,423

## Terms and Conditions

**Prices include:** Hardware and software as detailed above, transportation and insurance cover to loading dock and installation at your site, training, 12 months warranty.

**Prices exclude:** Laboratory preparation and services. Lifting equipment for the magnet to specification detailed in site services document. Insurance cover once the instrument reaches your site. Federal, state and local taxes and Import charges.

**Installation:** Installation will only commence after Nu Instruments have been assured that the site has been prepared in accordance with the site-planning guide.

**Warranty:** The warranty period for the system is 12 months from acceptance. Nu Instruments will replace free of charge any parts or constructional defects, which become apparent during this period, provided that it is not a result of incorrect usage. Consumable items are excluded from the warranty but spares of these items will be provided with the instrument.

Product contains a **carcinogen** and a **reproductive toxicant**

**⚠ WARNING:** This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and Antimony Trioxide which is known to the State of California to cause birth defects or other reproductive harm.

For more information go to [www.P65Warnings.ca.gov/](http://www.P65Warnings.ca.gov/).

**NOTE:** Please write all orders to the address:

**SPECTRO Analytical Instruments Inc.**  
50 Fordham Road  
Wilmington, MA 01887

**AMETEK, Inc.**

**TERMS AND CONDITIONS OF SALE**

THE FOLLOWING TERMS/CONDITIONS, TOGETHER WITH ANY OTHER TERMS/CONDITIONS SPECIFICALLY AGREED TO IN WRITING BY SELLER, SHALL APPLY TO ALL ORDERS ("Order(s)") FROM, AND SALES OF PRODUCTS ("Products") OR SERVICES ("Services") TO BUYER. ANY ACCEPTANCE OF ANY ORDER OF BUYER IS CONDITIONED UPON THESE TERMS/CONDITIONS. ANY ADDITIONAL OR DIFFERENT TERMS/CONDITIONS PROPOSED BY BUYER IN ANY DOCUMENT ARE OBJECTED TO AND SHALL NOT BE BINDING UPON SELLER. No salesperson is authorized to bind Seller to any promise or understanding not expressed herein.

**I. PRICES** All prices are subject to change without notice in the event of any changes in cost of materials or labor, specifications, quantities, delivery schedules, customs duties, other factors beyond Seller's control, or in the event of delays caused by instructions of the Buyer, or failure of the Buyer to give Seller adequate information. Further, prices payable by the Buyer shall be subject to immediate increase, should the Seller as a result of governmental action or regulation including, without limitation, those contemplated by an investigation under Section 232 of the Trade Expansion Act of 1962 (19 U.S.C. §1862) or those contemplated by an investigation under Section 301 of the Trade Act of 1974 (19 U.S.C. §2411), incur additional duties, tariffs or restrictions on products sold hereunder, or on the raw materials that are used in making such products. In no event shall prices include any amounts imposed on the Buyer in connection with Buyer's purchases from Seller, such as taxes, including but not limited to Value Added Tax (VAT) or excise taxes, duties, tariffs, or any other costs assessed against the Buyer by a governmental authority. Without limiting the foregoing, all prices are subject to adjustment without notice at any time prior to shipment in the event that the prices or costs related to any component, materials, parts, or commodities utilized in the Products or Services have increased following the acceptance of any Order for any Products or Services (a "Component Adjustment"). Any Component Adjustment, as determined by Seller, shall be reflected in the invoice for Products or Services that is transmitted from Seller to Buyer in accordance with the terms and conditions hereof. Without limiting the foregoing, all prices are subject to adjustment without notice at any time prior to shipment due to increases in inflation occurring following the acceptance of any Order for any Products or Services (an "Inflation Adjustment"). The Inflation Adjustment for any Products or Services shall be made by multiplying (a) the ratio obtained by *dividing* the (i) Consumer Price Index (CPI) in place at the time of invoice by (ii) the Consumer Price Index (CPI) in effect at the time of acceptance of an Order times (b) the price or cost for any applicable Products/Services as set forth in the Order. Any Inflation Adjustment, as determined by Seller, shall be reflected in the invoice for Products or Services transmitted from Seller to Buyer in accordance with the terms and conditions hereof.

**II. DELIVERY** Delivery dates are approximate and are dependent on prompt receipt by Seller of all necessary information. Seller may deliver all or any part of Products/ Services as early as 30 days in advance of agreed schedule. The point of delivery shall be FCA Seller's premises, unless otherwise specified by Seller. Upon delivery, title to Products and all risk of loss or damage thereto shall pass to Buyer. Where Buyer notifies Seller that it cannot take timely delivery of the Products, Seller may place such Products in storage, at the risk of Buyer, and Buyer shall reimburse Seller for all expenses incurred in connection with such storage. Buyer shall dispose of the packing materials for Products at its own expense, and shall defend, indemnify and hold harmless Seller from any legal obligations in connection with such packing waste.

**III. PAYMENT** A. The term of payment shall be net 30 days from date of Seller's invoice, unless otherwise specified. Payments shall be made by Buyer without any deduction or set-off. Unless otherwise agreed, payment shall be made in U.S. dollars. Seller may charge late payment fees at the rate of 1.5% per month, or the highest rate permitted by law, whichever is less, accruing daily. B. If the financial condition of Buyer is unsatisfactory to Seller, Seller may require full or partial payment in advance, or satisfactory security, in the form of a letter of credit or otherwise. In the event of bankruptcy or insolvency of Buyer, Seller may immediately cancel any Order then outstanding. C. Buyer grants Seller a purchase money security interest in Products located in the United States, or Services, as well as any proceeds, for the purpose of securing the obligations of Buyer hereunder. Buyer authorizes Seller to execute on Buyer's behalf and file such financing statements as Seller deems appropriate to perfect and notify Buyer's creditors of Seller's security interest.

**IV. VARIATIONS IN QUANTITY; CHANGES.** Buyer shall accept delivery of quantities greater or smaller than the quantity specified in Order(s), provided that any such variation shall not exceed 5% of the quantity originally specified, or 2 units, whichever is greater. Seller shall not be required to give notice of any such variations other than in the applicable shipping notice and invoice. Seller reserves the option to make changes to Products or Services which do not affect form, fit, or function, and shall deliver Products to the latest configuration part number at the time of delivery. No Order may be terminated in whole or part without Seller's prior express written consent, which consent shall be in Seller's sole discretion.

**V. EXPORT CONTROLS; SANCTIONS; FCPA; UKBA; ANTI-BOYCOTT AND UKCFA**

A. Buyer shall not make any disposition of the Products, by way of transshipment, re-export, diversion or otherwise, except as applicable U.S. export and sanctions laws and regulations may expressly permit, and other than in and to the ultimate country of destination specified on Order(s) or declared as the country of ultimate destination on Seller's invoices or in the End Use Statement that Buyer supplies Seller. Seller shall submit export clearance filings based on end use and end user information that Buyer provided to Seller. Failure of Buyer to comply with the requirements specified in this section shall constitute a material default allowing Seller to cancel related Order(s) without liability.

B. Buyer warrants that it shall not violate or cause the Seller to violate the U.S. Foreign Corrupt Practices Act of 1977 (FCPA), as amended, the United Kingdom Bribery Act (UKBA) of 2010, as amended, or their respective implementing regulations in connection with Buyer's sale or distribution of the Products and/or Services. Buyer also warrants that Buyer does not know or have reason to believe that any consultant, agent, representative or other person retained by Buyer in connection with the sale and/or distribution of Products/Services has violated, nor caused Seller to violate the FCPA and/or the UKBA. Where Buyer learns of or has reason to know of any violation of FCPA and/or UKBA in connection with the sale or distribution of Products/Services, Buyer shall immediately advise Seller.

C. Buyer further warrants that Buyer shall not violate or cause Seller to violate the U.S. Antiboycott Provisions of the U.S. Export Administration Regulations issued pursuant to the U.S. Export Administration Act of 1979, as amended, in connection with Buyer's purchase of Products/Services and that Buyer shall not request or require Seller to make statements or certifications against countries that are not subject to boycott by the U.S.

D. Buyer shall not facilitate tax evasion or fail to prevent tax facilitation in the UK or other countries in accordance with the requirements of the UK Criminal Facilitation Act (UKFCA).

**VI. WARRANTIES** A. Seller warrants that Products manufactured by Seller, when delivered, shall be free from defects in material/workmanship. Seller warrants that Services shall be performed in accordance with generally accepted industry practice. Seller's obligations under this warranty shall be limited exclusively to repairing or replacing, at Seller's option, any part of Products which, if properly installed, used and maintained, proved to have been defective in material or workmanship within 1 year from the date of shipment, or re-performing the Services. Seller warrants for a period of 1 year from the date of shipment that software or firmware, when used with

Products, shall perform in accordance with Seller's published specifications. Seller makes no warranty, express or implied, that the operations of the software or firmware shall be uninterrupted or error-free, or that functions contained therein shall meet or satisfy the Buyer's intended use/requirements. Buyer shall notify Seller of any defect in the quality or condition of Products (including software/firmware) or Services within 7 days of the date of delivery or performance, unless the defect was not apparent on reasonable inspection, in which case, within 7 days after discovery of the defect. If Buyer does not provide such timely notification, it shall not be entitled to reject Products (including software/firmware) or Services, and Seller shall have no liability for such defect.

B. Seller's warranty obligations shall not apply to Products which (1) have been altered or repaired by someone other than Seller, or (2) have been subjected to misuse, neglect, or improper use or application, or (3) are normally consumed in operation, or (4) have a normal life inherently shorter than the warranty period stated therein.

C. No Products may be returned unless authorized in advance by Seller, and then only upon such conditions to which Seller may agree. Buyer must obtain a Return Material Authorization (RMA) number from Seller prior to any return shipment, and such RMA number must appear on the shipping label and packing slip. Buyer shall be responsible for returned Products until such time as Seller receives the same at its facility, and for all charges for packing, inspection, shipping, transportation or insurance associated with returned Products.

D. This section VI sets forth the exclusive remedies and obligations for claims based upon defects in or nonconformity of Products/Services, whether the claim is in contract, warranty, tort (including negligence of any degree or strict liability) or otherwise. **THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL, WRITTEN, EXPRESS, IMPLIED OR STATUTORY. NO IMPLIED OR STATUTORY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE SHALL APPLY.**

**VII. PATENTS/INDEMNITY** If Buyer receives a claim that Products, or part thereof manufactured by Seller infringes a patent, Buyer shall notify Seller promptly in writing and give Seller information, assistance and exclusive authority to evaluate, defend and settle such claim. Where Buyer has furnished specifications/designs for the manufacture of the allegedly-infringing Products, Buyer shall defend, indemnify and hold harmless Seller against third-party claims for infringement arising out of Seller's use of such specifications/designs.

**VIII. LIMITATION OF LIABILITY**

The total liability of Seller on any claim, whether in contract, tort (including negligence of any degree and strict liability) or otherwise arising out of, connected with, or resulting from the manufacture, sale, delivery, resale, repair, replacement or use of any Products/Services, shall not exceed the price allocable to the Products/Services or part thereof which gives rise to the claim. **IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, TORT, (INCLUDING NEGLIGENCE OF ANY DEGREE, STRICT LIABILITY OR PATENT INFRINGEMENT) OR OTHERWISE, SHALL SELLER, ITS AFFILIATES, SUBCONTRACTORS, OR SUPPLIERS BE LIABLE FOR ANY LOSS OF PROFIT OR REVENUES, LOSS OF USE OF THE PRODUCTS OR SERVICES, OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF SUBSTITUTE GOODS, FACILITIES, SERVICES OR REPLACEMENT POWER, DOWNTIME COSTS OR CLAIMS OF BUYER'S CUSTOMERS FOR DAMAGES OR FOR ANY SPECIAL, PROXIMATE, CONSEQUENTIAL, INCIDENTAL, INDIRECT OR EXEMPLARY DAMAGES.** If Buyer transfers title to, or leases Products sold hereunder to, or otherwise permits or suffers use by, any third party, Buyer shall obtain from such third party a provision affording Seller and its subcontractors/suppliers the protection of the preceding sentence. Any action against Seller must be brought within 18 months after cause of action accrues.

**IX. EXCUSABLE DELAYS** A. Seller shall not be liable for delays in delivery or failure to perform due directly or indirectly to causes beyond Seller's reasonable control including but not limited to: acts of God; war; terrorism; civil commotion; riots; embargoes; government regulations, export license denials, port congestion; acts of or failure to act on the part of Buyer or its agents/employees; fires; floods; sabotage; nuclear incidents; earthquakes; storms; epidemics; pandemics; government action or orders; strikes; lockouts or other labor difficulties; shortages of or inability to timely obtain proper labor, materials, components, shipping space or transportation, fuel, supplies or power at current prices; or due to limitations imposed by the extent of availability of Seller's normal manufacturing facilities.  
B. If a delay excused per the above extends for more than 90 days and the parties have not agreed upon a revised basis for continuing providing Products/Services at the end of the delay, including adjustment of the price, then either party (except where delay is caused by Buyer, in which event only Seller) upon thirty (30) days' notice may terminate the Order with respect to the unexecuted portion of the Products/Services, whereupon Buyer shall promptly pay Seller its reasonable termination charges upon submission of Seller's invoices thereof.

**X. SOFTWARE/TECHNICAL/PROPRIETARY INFORMATION** A. Buyer shall not acquire any rights to any software which may be delivered with Products, except as granted in Seller's standard software license. Any software license granted in connection with Products shall be an interim license, which may be withdrawn, pending payment for Products in full.

B. The purchase of Products shall not include any right to supply of technical information such as drawings or specifications.

C. Proprietary information, including drawings, documents, technical data, reports, software, designs, inventions and other technical information supplied by Seller in connection herewith (hereinafter called "Data"), shall remain Seller's sole property and shall be held in confidence by Buyer. Data shall not be reproduced, used or disclosed to others by Buyer without Seller's prior written consent. Upon completion of Order, Buyer shall promptly return all Data to Seller together with all copies or reprints thereof then in Buyer's possession or control, and Buyer shall thereafter make no future use, either directly or indirectly, of any Data or any information derived therefrom without Seller's prior written consent. The foregoing shall in no way obligate Seller to provide or supply Data.

**XI. DIES, TOOLS, PATTERNS** Seller's charges for dies, molds, patterns and the like represent the Buyer's proportionate cost thereof, it being expressly understood that they remain the property of Seller. Modifications made to dies, molds, patterns and the like in order to manufacture Products shall be at the discretion of Seller.

**XII. GENERAL** A. The rights and obligations of the Buyer and Seller hereunder shall be governed in all respects by the law of the Commonwealth of Pennsylvania, U.S.A. The exclusive forum for adjudication of any disputes shall be the federal or state courts of the Commonwealth of Pennsylvania, and Buyer/Seller hereby consent to personal jurisdiction and venue in such courts in any proceeding. The United Nations Convention on the International Sale of Goods shall not apply.

B. These Terms and Conditions of Sale together with any other terms specifically agreed to in writing by Seller constitute the entire agreement between Buyer and Seller and supersede any prior or contemporaneous representations, agreements, proposals, warranties, or understandings, oral or written, express or implied. No waiver, modification, amendment, rescission or other change to these Terms and Conditions of Sale shall be binding unless specifically agreed to in writing by an authorized representative of Seller.

C. The invalidity, of any part hereof shall not affect the validity of the remainder. The failure of Seller to assert any

right at any time hereunder shall not prevent Seller's subsequent assertion of the same or different rights.  
D. Buyer may not assign this contract without the prior written approval of the Seller.

**XIII. PROHIBITION FOR HAZARDOUS USE**

Buyer understands and agrees that Products sold hereunder are not intended for application in, and shall not be used by Buyer in the construction or operation of a nuclear installation, a nuclear facility or a nuclear reactor or in connection with use or handling of nuclear material or for any hazardous activity or critical application, where failure of a single component could cause substantial harm to persons or property, unless Products have been specifically approved by Seller for such activity or application. Seller disclaims all liability for loss or damage resulting from such unauthorized use and Buyer shall defend, hold harmless and indemnify Seller against any such liability, whether arising under breach of contract, warranty, tort (regardless of the degree of fault or negligence), strict liability or otherwise.

Where Seller approves the application of the Products in a nuclear facility, the Buyer shall, before the use or provision of such Products, execute a Nuclear Defense and Indemnification Agreement in a form acceptable to Seller.

**XIV. STATUTORY REQUIREMENTS**

Seller reserves the right to make any changes in the general specifications of the Products which are required for the Products to conform to any statutory requirement.

**XV. GOVERNMENT CONTRACTS**

Only Federal Acquisition Regulation ("FAR") supplement clauses expressly accepted in writing by Seller shall be included or incorporated by reference herein. Seller shall not be bound by and makes no representation of compliance with any FAR or FAR supplement clauses that Seller shall not have expressly accepted in writing.

**XVI. INVOICE FRAUD PREVENTION**

Given the increased risk of invoice fraud, Buyer should treat any notification to change details of Seller's bank account with suspicion. Seller will not inform or instruct Buyer to make remittance or money transfers to any other beneficiary, address or bank account via email. Always verify a request to update records or change bank account information BEFORE implementing a change or completing the payment. Verify any requested changes by speaking to a known Seller representative.