




The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at wvOASIS.gov. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at WVPurchasing.gov with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header @ 4

[List View](#)**General Information** | [Contact](#) | [Default Values](#) | [Discount](#) | [Document Information](#) | [Clarification Request](#)**Procurement Folder:** 873707**Procurement Type:** Central Contract - Fixed Amt**Vendor ID:** 000000100857 **Legal Name:** WATERS TECHNOLOGIES CORPORATION**Alias/DBA:****Total Bid:** \$540,322.60**Response Date:** 08/04/2021 **Response Time:** 12:36**Responded By User ID:** WatersTech **First Name:** Alicia**Last Name:** Shannon**Email:** myinstrumentrep@water.**Phone:** 508-482-3699**SO Doc Code:** CRFQ**SO Dept:** 0506**SO Doc ID:** CME2200000001**Published Date:** 7/29/21**Close Date:** 8/4/21**Close Time:** 13:30**Status:** Closed**Solicitation Description:** LC/MS/MS TRIPLE QUAD SYSTEM **Total of Header Attachments:** 4**Total of All Attachments:** 4



Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

**State of West Virginia
 Solicitation Response**

Proc Folder: 873707
Solicitation Description: LC/MS/MS TRIPLE QUAD SYSTEM
Proc Type: Central Contract - Fixed Amt

Solicitation Closes	Solicitation Response	Version
2021-08-04 13:30	SR 0506 ESR08032100000000664	1

VENDOR
 000000100857
 WATERS TECHNOLOGIES CORPORATION

Solicitation Number: CRFQ 0506 CME2200000001
Total Bid: 540322.5999999999767169356346 **Response Date:** 2021-08-04 **Response Time:** 12:36:06

Comments: In response to the terms and conditions contained in the bid documentation provided by the State of West Virginia, Waters Technologies Corporation hereby proposes negotiation of a mutually beneficial agreement between Waters and the State of West Virginia, if the bid to which we are responding to is awarded.

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
 (304) 558-2402
 crystal.g.hustead@wv.gov

Vendor Signature X **FEIN#** **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	LC/MS/MS Triple Quad System	1.00000	EA	443810.100000	443810.10

Comm Code	Manufacturer	Specification	Model #
42000000			

Commodity Line Comments: Please see Quote 22692888 for product and pricing details.

Extended Description:

Section 3.1 LC/MS/MS Triple Quad System
 3.1.9 UHPLC
 3.1.10 Pumping System
 3.1.11 Autosampler
 3.1.12 Column Oven
 3.1.13 Triple Quadrupole Mass Spectrometer

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Nitrogen Generator	1.00000	EA	14560.000000	14560.00

Comm Code	Manufacturer	Specification	Model #
42000000			

Commodity Line Comments: Please see Quote 22692888 for product and pricing details.

Extended Description:

3.2 Nitrogen Generator
 The supplied generator must meet the requirements of the LC/MS/MS system.

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Plate Changer	1.00000	EA	479.500000	479.50

Comm Code	Manufacturer	Specification	Model #
42000000			

Commodity Line Comments: Please see Quote 22692888 for product and pricing details.

Extended Description:

3.3 Plate changer
 3.3.1 The system must include a plate changer to allow for expansion of up to 16 additional deep well microtiter plates.

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	Customer Support and Service	1.00000	EA	73906.000000	73906.00

Comm Code	Manufacturer	Specification	Model #
81112201			

Commodity Line Comments: Please see Quote 22692888 for product and pricing details. Includes 36 months FLEXChoice coverage.

Extended Description:

3.4 Customer Support and Service 3.4.1 through 3.4.8

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	Uninterruptible Power SAUpply	1.00000	EA	7560.000000	7560.00

Comm Code	Manufacturer	Specification	Model #
42000000			

Commodity Line Comments: Please see Quote 22692888 for product and pricing details.

Extended Description:

3.5 3.5 Uninterruptable Power Supply

3.5.1 The package must include an Uninterruptable Power Supply (UPS) to power the system during a power outage or fluctuations until the generator is available.

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
6	Toxicology Spectral Libraries	1.00000	EA	7.000000	7.00

Comm Code	Manufacturer	Specification	Model #
42000000			

Commodity Line Comments: Please see Quote 22692888 for product and pricing details.

Extended Description:

3.6.Toxicology Spectral Libraries

3.6.1The package must include applicable toxicology spectral libraries for comparison of detected compounds.

Dr. Crystal Husted
State of West Virginia Office of Chief M
619 Virginia St W
Charleston,WV,25302-2027
US

Telephone : 304-558-2402
Email : crystal.g.husted@wv.gov

Sales Proposal

Please reference this Quotation when Purchase Order is issued

Quotation No: 22693051 - Expiration Date: 09/03/2021

Dear Dr. Crystal Husted,

Thank you for your interest in Waters! Please find the enclosed Sales Quotation for the products you inquired about. We look forward to working with you and your team for all of your laboratory needs.

To place an order for products and services on this quotation, you may send your hard copy purchase order via email to waters_quotes@waters.com

You may also contact Waters Sales Support to place your order via telephone at 800-252-4752 Ext.8023, fax your purchase order to 508-482-8532 or 508-482-8834.

If you have any questions regarding this quotation, please contact your local Account Representative: Xiao Postell. Xiao may be reached by telephone at , or via Email at XIAO_POSTELL@WATERS.COM, or visit us online at www.waters.com.

Waters Sales Support
Tel: 800-252-4752 Ext.8023
Email: waters_quotes@waters.com

FOR

Sales Proposal

Please reference this Quotation when Purchase Order is issued

Item	Product#	Qty	Description	Unit Price	Discount	Net Price
1	176850048	1	Waters Xevo TQ-XS System	631,433.00	- 187,622.90	443,810.10
			<i>With the following configuration:</i>			
	176003945	1	Waters Xevo TQ-XS			
	176002526	1	MassLynx Workstation with TL			
	668000273	1	MONITOR, 23"			
	176003946	1	Dry Vacuum EBARA pump			
	176003948	1	MS Ref StdsXEVO TQ-XS			
			ACQ. UPLC H-Class PLUS Binary Systems			
	176015145	1	ACQ H-Class PLUS Binary Sys (CMA/2AUX)			
	176015040	1	ACQUITY UPLC SO H/I-Class			
	700009687	1	Option Kit, Sample Organizer Shelves (5)			
	205000726	1	CH-A Extension Kit H/I-Class for MS			
	430002012	1	ASSY, EXTENSION LOOP, 50uL			
			Analytical Column Options			
	186002350	1	ACQUITY UPLC BEH C18 Column, 130Å, 1.7 µm, 2.1 mm X 50 mm, 1/pk			
			Installation, Training and Plans			
	741000358	1	XEVO Tandem Quad System Install Cert.			
	176003950	1	Analytical LC-MS Solvent Install Kit			
	CHEMVOUCHER1	1	FlexCHEMISTRY Discount Voucher Level 1	1,000.00	- 300.00	700.00
			Extended Warranty			
	740002549	1	Maint: MassLynx S/W 2nd Yr	2,230.00	- 669.00	1,561.00
	176600010	1	FlexCHOICE™ Coverage for Waters Xevo TQ-XS System coverage for 36 months See detail description pages for more information	103,350.00	- 31,005.00	72,345.00
2	186009339	1	Nitrogen Generator, Genius XE35, 120V	20,800.00	- 6,240.00	14,560.00
3	725000473	1	Power Supply, Uninterruptable 5.2KV	10,800.00	- 3,240.00	7,560.00
4	289002414	1	ASSY, BOTTLE TRAY	685.00	- 205.50	479.50
5	667003663	1	Kit,ACQUITY TQD Toxicology: Targeted	10.00	- 3.00	7.00

Total Quotation in USD **541,022.60**
 (Excludes Taxes & Shipping)

Sales Proposal

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Waters Standard Terms and Conditions

Freight Terms: FOB Shipping Point
Prepaid & Added
Payment Terms: CASH IN ADVANCE
Payment Terms Subject to Credit Review

Waters™FlexCHOICE™: mySystem Coverage Waters™ FlexCHOICE™ personalized, flexible support, maintenance, and service options to meet the unique requirements of your laboratory.

- Performance Maintenance (PM) is a proactive maintenance that keeps your system operating at peak performance. One or more PM visits may be included as specified within the quote. A PM visit is a combination of Waters Quality Parts, including documented standardized protocols, delivered by a Waters Certified Field Service Specialist.
- A more detailed description of coverage and additional options are available in our Statement of Coverage, available upon request.
- Taxes may be applied at time of invoicing where applicable.
- All pricing on this quotation is subject to change, unless otherwise noted in a signed agreement. Pricing on this quotation is valid through date stated as ""Quotation Valid Until"". Payment Terms are subject to Credit Review.
- Please reference this quotation number when issuing your purchase order. Thank you for choosing Waters FlexCHOICE mySystem coverage to protect your investment. We look forward to providing the customized level of service and support that's right for your laboratory, while maintaining the performance you have come to trust with Waters

Sales Proposal
Please reference this Quotation when Purchase Order is issued

Detail Product Description(s)

Product# Description 176003945 Waters Xevo TQ-XS

Xevo® TQ-XS is an advanced benchtop tandem quadrupole mass spectrometer which expands the scope of ultimate sensitivity analysis. It features StepWave XST™ ion transfer optics delivering enhanced sensitivity, robustness, and reliability; passively removing gas load and undesirable neutral contaminants while actively transferring ions into the mass analyzer. Sensitivity benefits are more accessible as the Xevo TQ-XS also features a tool-free probe design which allows users much easier maintenance, optimization and improved reproducibility between operators. Method transfer onto the Xevo TQ-XS is made simple by the Xtended Dynamic Range (XDR™) detector which allows six orders of linear dynamic range. Wider compound coverage without changing ionization technique is delivered by the revolutionary UniSpray™ source option. In addition to these benefits, users can combine quantitative MRM with qualitative MS data acquisition through RADAR™ and confirm low levels of compounds using ScanWave™ enhanced Product Ion Confirmation scanning. The MassLynx® software supporting this instrument ensures that automated system optimization, status monitoring and results review and reporting is a smooth process using IntelliStart™ and TargetLynx XST™. When combined these advances allow new levels of reproducible and accurate quantitation of analytes at the lowest concentrations.

The following items are included as part of the standard system:

Z SPRAY™ API interface...Dual orthogonal interface for robust LC/MS Tool-free electrospray (ESI) inlet probe...for efficient ionisation of a wide range of compounds
ESCI™ ionisation capability...rapid switching source for both ESI and APCI in the same run
IntelliStart™ fluidics...Automated tuning, calibration and method development
TargetLynx XST™...Application manager (requires license as provided with PC, below)
OpenLynx™...Application manager (requires license as provided with PC, below)

The standard system does not include the following items, which must be specified separately:

Additional inlet probes and ion source options (detailed below).
Acquisition PC data system and monitor
Additional Workstation data system terminals.
Printers.
Additional MassLynx™ options (detailed below).
Vacuum backing pump options (rotary or oil-free combinations)
HPLC systems or other inlet options.

1. Z SPRAY™ API INTERFACE

This instrument is equipped with an atmospheric pressure ionisation (API) LC interface. The source and spraying elements are visible through a transparent window in the enclosure and are easily accessible via a quick-release mechanism. The source elements may be wiped clean in situ or removed for cleaning without the need for tools and without breaking vacuum. The nebulized spray is orientated orthogonally and positioned off axis for maximum source longevity and analyser protection against 'dirty' samples. The source also includes facilities for de-clustering ions formed at atmospheric pressure. Positive and negative capability is included. Positive ion, negative ion and ESCI™ capability is available as standard (allowing rapid switching between ESI and APCI, positive and negative in the same run). All source voltages and gases are under data system control. Both ESI and APCI probes are now tool-free allowing easy routine maintenance and improved user-to-user reproducibility.

2. INTELLISTART™ FLUIDICS

The instrument is equipped with an on-board infusion system capable of delivering reference solutions from 3 built-in vial locations. The on-board fluidics system is controlled by the IntelliStart software to provide automated instrument setup,

Sales Proposal
Please reference this Quotation when Purchase Order is issued

Detail Product Description(s)

Product# Description **176003945 Waters Xevo TQ-XS - Continued**

mass calibration and method development. The reference solutions are delivered via switching valves for either direct or combined (into an LC flow) infusion into the API source. The valves can in addition be programmed from the software to function as an LC flow divert. If required, the fluidics can be controlled manually via the system Console.

3. TANDEM QUADRUPOLE ANALYSER

The instrument is equipped with two high performance quadrupole mass analysers with inter-element beam focusing and a mass range of 2-2000 amu. Pre-filters are fitted to the mass analysers to maximise resolution and transmission. The pre-filters also eliminate the need for cleaning of the quadrupole mass analysers. All lens and analyser voltages are digitally controlled. Analyser parameters may be programmed with respect to mass for optimal performance. Analyser parameters used for data acquisition are automatically recorded and appended to the relevant data file.

4. StepWave XS ION TRANSFER OPTICS

This instrument is equipped with patented (US patent - US9035241), off-axis StepWave™ XS ion transfer optics which provide improved sensitivity that is reproducible for multiple injections and can deliver reliable quantitation at the very lowest levels. StepWave XS ensures neutrals and gas load are passively removed for enhanced transmission, with the ions actively transferred into the mass analyser, improving sensitivity and robustness. The first stage is modified with a series of horizontal plates that allows a more controlled extraction of ions from the gas flow so that ions collide with gas molecules with less energy. A segmented quadrupole second stage focuses the ion beam to provide more efficient transmission of ions from the source to the detector.

5. COLLISION CELL

The instrument is equipped with a unique design of collision cell that can be operated in two different modes (T-Wave or ScanWave), depending upon need. In both modes of operation the collision energy and gas pressure are under programmable software control. The collision energy and collision gas pressure used during data acquisition are automatically recorded and appended to the relevant data file.

T-Wave™:

The cell can be operated as a high efficiency travelling wave (T-Wave) device for collision induced dissociation. The travelling wave enables rapid cell clearance and refill for fast MRM transition switching while maintaining optimum signal to noise.

ScanWave™:

The cell can be operated in a ScanWave mode. The cell can accumulate ions and then release them, according to their mass, in synchrony with the second quadrupole mass analyser. This mode of operation results in a significant increase in the signal intensity of full scan spectra (Product ion).

RADAR™:

An information-rich acquisition approach that allows you to collect highly specific quantitative MRM data for target compounds while providing additional spectral data to help visualize all other components in the sample.

6. VACUUM SYSTEM

The instrument is equipped with a differentially pumped, automated vacuum system comprising: three air-cooled turbomolecular pumps and a single oil-free vacuum backing pump. Vacuum read backs and system vent/pump cycles are digitally monitored and controlled, to provide total software control and ensure fail-safe operation in the event of power failure. The backing option must be ordered separately (See Backing Pump Option for part number and description)

7. DETECTOR

The instrument is equipped with an Xtended Dynamic Range™ (XDR) low noise dynolite photomultiplier detector. The detector is positioned after the second analyzer. A High Voltage conversion dynode and phosphor are positioned at 90° off-axis to the analyser for the elimination of neutral noise. The detector features novel, integral focusing optics, which provides a detection efficiency approaching 100% for single ions. The photomultiplier is enclosed in its own vacuum envelope for long life. The detector operates in both positive and negative ion mode, which can be switched rapidly under software digital control.

Sales Proposal

Please reference this Quotation when Purchase Order is issued

Detail Product Description(s)

Product# Description

176003945 Waters Xevo TQ-XS - Continued

7. MASSLYNX SOFTWARE / MS Workstation

The MS Workstation and MassLynx 4.2 License for the application software for instrument control, data acquisition and processing must be ordered separately (See MS Workstation Variant Configurator section for part numbers and descriptions) Post acquisition processing and general data manipulation can be carried out by an additional computer workstation and software installation (See the MassLynx Process-only Workstations section of the MassLynx Variant configurator 176706000).

176002526 MassLynx Workstation with TL

MassLynx™ Workstation with License

MassLynx Application Software License includes key discs for TargetLynx™ and OpenLynx™

Contains the standard MS workstation as defined in the MassLynx Variant configurator 176706000 and Product Ordering Guide

668000273 MONITOR, 23"

22" Flat Panel Monitor

Lenovo ThinkVision L2250p - LCD display - TFT - 22" - Widescreen - 1680 x 1050 / 75 Hz - 250 cd/m2 - 1000:1 - 5 ms - 0.282 mm DVI-D, VGA - business black

176003946 Dry Vacuum EBARA pump

The Ebara EV-SA30 incorporates totally clean multi-stage Roots technology with no oil or tip seal dust contamination risk. No annual service is required and it has 80% lower power consumption and 50% smaller footprint compared to two rotary vane pumps giving a similar combined pumping speed.

176015040 ACQUITY UPLC SO H/I-Class

ACQUITY UPLC Sample Organizer

The unit is compatible with both ACQUITY UPLC H-Class and ACQUITY UPLC Sample Managers. The ACQUITY UPLC Sample Organizer increases sample capacity to either: 22 microtiter plates, 8 deep-well plates, 388 x 2 mL vials, or 196 x 4 mL vials. Plates may be inserted or removed from the Sample Organizer at the user's discretion. Plates are transferred from the Sample Organizer to the ACQUITY UPLC Sample Manager in a programmable order. Any sample position may be accessed at any time. Sample temperature is controlled over a 4° to 40°C range settable in 0.1°C increments, to promote sample stability, at an ambient temperature of 23°C or lower, and at relative humidity levels below 80%, the Sample Organizer will maintain the temperature of the compartment down to 4°C with a tolerance of ±3°C of the setpoint, independent of the number of sample and shelves in place. At ambient temperature above 23°C the Sample Organizer can maintain an average temperature of at least 18°C below ambient. Sample temperatures will be with ±3°C.

All operating parameters and status displays are managed through the ACQUITY UPLC System Instrument Console. The same plates and vial holders can be used in both the Sample Organizer and the Sample Manager. NOTE: The unit is shipped with racks to support the standard configuration of 2 mL vials trays

205000726 CH-A Extension Kit H/I-Class for MS

Sales Proposal

Please reference this Quotation when Purchase Order is issued

Detail Product Description(s)**Product# Description****205000726 CH-A Extension Kit H/I-Class for MS - Continued**

Extension Arm Kit

430002012 ASSY, EXTENSION LOOP, 50uL

50 µL Extension Loop

Extension loops increase the volume of the sample that can be drawn and held for injection.

741000358 XEVO Tandem Quad System Install Cert.

Xevo MS System Installation

Includes:

- System Set up and Specification Testing
- Product Familiarization Training
- 1 Year Manufacturers Warranty
- Insight I-Assist Remote Connection

176003950 Analytical LC-MS Solvent Install Kit

Analytical LC-MS Solvent Install Kit

The Analytical LC-MS Solvent Install Kit is intended to assist in effectively installing new LC-MS systems by minimizing sources of possible contamination. This kit includes the LC-MS Grade Solvent Kit (186008715) as well as the Waters Certified Container Kit (186007088). Additional kit components also include a formic acid additive, aqueous ammonia additive and nitrile gloves.

Note: Because this is a hazardous material and GHS requirements vary from country to country, Waters Corporation is only able to ship this item to specific countries worldwide. If the destination for this order (i.e. the ship to country) is changed to a non-permitted country at any point after this quote was generated, this item will be excluded from the final order.

CHEMVOUCHER1 FlexCHEMISTRY Discount Voucher Level 1

FlexCHEMISTRY allows you to adjust and optimize your consumable purchases as needed to meet your laboratory demands. With the Waters FlexCHEMISTRY program, you will have the flexibility to decide your specific consumable needs later by purchasing FlexCHEMISTRY vouchers with your instrument and take advantage of the system discount at the point of purchase.

740002549 Maint: MassLynx S/W 2nd Yr

Masslynx Software 2 Year Plan

MassLynx Software Maintenance Contract - Valid for 2 Years - Includes coverage according to the Waters Informatics Maintenance Plan.

176600010 FlexCHOICE™ Coverage for Waters Xevo TQ-XS System

Seamless coverage for the 36 months

No. of Performance Maintenance Visits: 2

Sales Proposal

Please reference this Quotation when Purchase Order is issued

Detail Product Description(s)

Product# Description

176600010 FlexCHOICE™ Coverage - Continued

Service Level: Standard
Response Time: Standard

Covered Modules:

UPSMFTN+ - UPLC SM-FTN PLUS
UPCMAUX - UPLC CM Aux
XEVOTQXS - XEVO TQ-XS
UPCPORG - UPLC CP SAMPLE ORG
UPCMA - ACQUITY UPLC CM-A
UPBSM+ - UPLC BSM PLUS

725000473 Power Supply, Uninterruptable 5.2KV

Power Supply, uninterruptible 5.2kVA
(This unit is modified from the standard to allow an overload capacity on Instrument Start-up)
Please Note that this requires an L6-30 wall socket

289002414 ASSY, BOTTLE TRAY

Bottle Tray Assembly

667003663 Kit,ACQUITY TQD Toxicology: Targeted

ACQUITY TQD Toxicology: Targeted

Account : State of West Virginia
Quotation number : 22693051
Creation date : 08/03/2021
Expiration date : 09/03/2021

Sales Proposal
Please reference this Quotation when Purchase Order is issued

Waters General Sales Terms and Conditions

THIS TRANSACTION IS EXPRESSLY CONDITIONED UPON AND SUBJECT TO ALL OF THE FOLLOWING TERMS AND CONDITIONS:

1. Acceptance - Buyer's acceptance of the offer to purchase the products and/or services set forth on the front page made by Waters Technologies Corporation d/b/a Waters Corporation (Waters) of this quotation shall create a contract subject to and expressly limited by the terms and conditions contained on this form. Acceptance of this quotation may only be made on the exact terms and conditions set forth on this quotation; if additional or different terms are proposed by Buyer, such additional or different terms shall not become a part of the contract formed by Buyer's acceptance of the quotation. Receipt of the products sold hereunder or commencement of the services provided hereunder shall be deemed acceptance of the terms and conditions of this quotation.
2. Taxes and Payment - Any tax, duty, custom or other fee of any nature imposed upon this transaction by any federal, state or local governmental authority shall be paid by Buyer in addition to the price quoted. In the event Waters is required to prepay any such tax or fee, Buyer will reimburse Waters. Payment terms shall be net thirty (30) days after shipment and are subject to credit approval. An interest charge equal to 1 1/2% per month (18% per year) will be added to quotations outstanding beyond 30 days after shipment. In addition, Waters reserves the right, in its sole discretion, to require C.O.D. payment terms from any Buyer. Waters may also refuse to sell to any person until all prior overdue accounts are paid in full.
3. Delivery and Shipment - Delivery terms shall be F.O.B. Waters shipping point; identification of the products shall occur when they leave Waters shipping point at which time title and risk of loss shall pass to Buyer. All shipment costs shall be paid by Buyer and if prepaid by Waters the amount thereof shall be reimbursed to Waters. Waters will make reasonable commercial efforts to ship the products or provide the services hereunder in accordance with the delivery date set forth on the reverse side hereof provided, that Waters accepts no liability for any losses or for general, indirect special or consequential damages arising out of delays in delivery.
4. Warranty - The products and/or services shall be covered by the applicable Waters standard warranty, a copy of which is supplied with the products and/or services or upon request. NO OTHER WARRANTY, WHETHER EXPRESS OR IMPLIED, IS MADE WITH RESPECT TO THE PRODUCTS AND/OR SERVICES. WATERS EXPRESSLY EXCLUDES THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE. Any model or sample furnished to the Buyer is merely illustrative of the general types and quality of goods and does not represent that the products will conform to the model or sample. Buyer's remedies under Waters warranty shall be limited to repair or replacement of the product or component which failed to conform to Waters applicable standard warranty. WATERS SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR ANY OTHER INDIRECT DAMAGES RESULTING FROM ECONOMIC LOSS OR PROPERTY DAMAGE SUSTAINED BY BUYER FROM THE USE OF ITS PRODUCTS OR SERVICES.
5. Returned Goods - Waters may, in its sole discretion, authorize product returns in appropriate circumstances, subject to such conditions as Waters may specify. Any such return shall be subject to the express prior authorization of Waters and payment by Buyer of a restocking charge. No returns will be authorized after one hundred twenty (120) days following shipment to Buyer.
6. Technical Advice - Waters may, at Buyer's request furnish technical assistance, advice and information with respect to the products if and to the extent that such advice, assistance and information is conveniently available. It is expressly agreed that there is no obligation to provide such information, which is provided without charge at the Buyer's risk, and which is PROVIDED WITHOUT WARRANTY OF ANY KIND AND IS SUBJECT TO THE WARRANTY DISCLAIMERS AND LIMITATION OF LIABILITY SET FORTH IN PARAGRAPH 4.
7. Waters Right of Possession, etc. - Buyer hereby grants Waters a purchase money security interest in the goods offered by this quotation to secure the due and punctual payment of the purchase price specified in this quotation. In the event of default by Buyer in any payment due Waters, Waters shall have the right, in addition to any other remedies it may have at law or in equity, to withhold shipment, to recall goods in transit and retake the same, to repossess any goods which may be stored with Waters for Buyer's account without the necessity of Waters initiating any other proceedings. In addition, Waters shall have all of the rights and remedies of a secured party under the Massachusetts Uniform Commercial Code and may exercise all such rights and remedies in accordance therewith. Buyer shall execute such documents as Waters may request to effectuate the foregoing security interest.
8. Agents, etc. - No agent, employee or other representative has the right to modify or expand Waters standard warranty applicable to the products and/or services or to make any representations as to the products other than those set forth in the applicable user or operator's guide delivered with the products, and any such affirmation, representation or warranty, if made, should not be relied upon by Buyer and shall not form a part of contract between Waters and Buyer for the purchase of the products or services.
9. Fair Labor Standards - The products or services provided hereunder were produced and/or performed in compliance with the requirements of all sections of the Fair Labor Standards Act of 1938 as amended.
10. Equal Employment - Waters is an Equal Opportunity Employer. It does not discriminate in any phase of the employment process against any person because of race, color, creed, religion, national origin, sex, age, veteran or handicapped status.
11. Modifications, Waiver, Termination - The contract formed by Buyer's acceptance of this quotation may be modified and any breach thereunder may be waived only by a written and signed document by the party against whom enforcement thereof is sought.
12. Governing Law - The contract formed by Buyer's acceptance of this quotation shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts, U.S.A.
13. Compliance with Laws - Buyer shall at all times comply with all applicable federal, state and local laws and regulations, including, without limitation, the provisions of the United States Export Control Laws as may be in effect for any of the products or services, and, if products or services hereunder are used in clinical applications, all applicable rules and regulations of the United States Food and Drug Administration and/or other domestic or international agencies with respect to the application of, as the case may be, Good Clinical Practices ("GCP"), Good Laboratory Practices ("GLP") or good Manufacturing Practices ("GMP").
14. Additional Terms and Conditions - This quotation is also subject to any Waters Special Terms and Conditions applicable to the products or services offered by this quotation, which appear on the front of this quotation. Any variance from the terms and conditions of this quotation in any order or other written notification from Buyer, will be of no effect. Should Buyer order products or services through a Waters office located outside of the United States, the terms and conditions of the quotation issued by the office outside of the United States shall govern such order.
15. Arbitration - Any and all disputes or controversies arising in connection with the contract formed by Buyer's acceptance of this quotation or the sale of products and/or performance of the services shall be resolved by final and binding arbitration in Boston, Massachusetts, under the rules of the American Arbitration Association then obtaining. The arbitrators shall have no power to add to, subtract from or modify any of these terms or conditions of this contract. Any award rendered in such arbitration may be enforced by either party in either the courts of the Commonwealth of Massachusetts or in the United States District Court for the District of Massachusetts, to whose jurisdiction for such purposes Waters and Buyer each hereby irrevocably consents and submits.
16. Software - To the extent there is any software included with the products, the software is being licensed, not sold and all rights, title and interest therein shall remain with Waters. Use of the software shall be in accordance with the applicable software license delivered with the products. U.S. Government Restricted Rights - RESTRICTED RIGHTS LEGEND. Use, duplication or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or subparagraphs (c)(1) and (2) of the Commercial Computer Software - Restricted Rights clause at 48 CFR 52.227-19, as applicable.
17. Force Majeure - Waters shall have no liability for failure to perform, or delay in performance, in the delivery of any and all equipment manufactured or sold by Waters including instruments, supplies, components, systems, chemistry, accessories, replacement spare parts, or any and all services provided by Waters, caused by circumstances beyond its reasonable control including, but not limited to, acts of God, acts of nature, floods, fire, explosions, war or military mobilization, United States governmental action or inaction, request of governmental authority, delays of any kind in transportation or inability to obtain material or equipment, acts of other governments, strikes, or labor disturbances.
18. Diagnostic Products - Buyer acknowledges and agrees that only those products which are labeled and identified as in vitro diagnostic ("IVD")

Sales Proposal

Please reference this Quotation when Purchase Order is issued

Waters General Sales Terms and Conditions

devices are intended to be used for IVD purposes. Buyer acknowledges and agrees that any products that are not labeled and identified as IVDs are general laboratory products intended for research and other general scientific uses and are not for use in IVD procedures.

ACQUITY UPLC H-Class PLUS System with Binary Solvent Management

The Waters™ ACQUITY™ UPLC™ H-Class PLUS Binary-based System is a new binary configuration that complements the existing quaternary-based ACQUITY UPLC H-Class PLUS System, providing binary solvent management with the same dispersion and robustness characteristics of the existing system. The new system features tubing internal diameters of 0.004"/102 µm and supports a maximum operating back-pressure of 15,000 PSI. It is comprised of a Binary Solvent Manager, a flow-through-needle sample manager and column management options that feature active pre-heating. Either a single column heater or column manager option that heat and cool up to 6 columns is available. Like the quaternary version, this system is holistically designed to target routine analyses and perform HPLC and UPLC separations. The binary solvent manager's reduced system volume makes this system suitable for faster cycle times and MS applications.

ACQUITY UPLC H-CLASS PLUS SYSTEM WITH BINARY SOLVENT MANAGEMENT SYSTEM FEATURES

Total system bandspread‡ 5σ	≤12 µL, default configuration
Dwell volume (total system)†	≤115 µL, default configuration
Gradient delay volume†	≤90 µL
Integrated leak management	Leak sensors, as standard, and safe leak handling
System synchronization	Injection synchronization between both pumps and the sample manager enhances retention time reproducibility
Operating flow rate range	0.001 to 2.000 mL/min, in 0.001 mL increments (firmware version 1.71 and later)
Maximum operating pressure	15,000 psi up to 1.0 mL/min, 9000 psi up to 2.0 mL/min (firmware version 1 and earlier) 15,000 psi up to 1.0 mL/min, 7800 psi up to 2.0 mL/min (firmware version 1.72 and later)
pH range†	1 to 12.5
Unattended operation	Leak sensors, full 96-hour diagnostic data display through console software
Cycle time	≤30 s inject-to-inject

BINARY SOLVENT MANAGER (BSM)

Number of solvents	Up to four, in combination of two, A1 or A2 and B1 or B2
Solvent conditioning	Integrated vacuum degassing, six lines with two allocated for the injector needlewash/purge solvents
Gradient formation	High pressure mixing, binary gradient
Gradient profiles	11 gradient curves (including linear, step [2], concave [4], and convex [4])
Primary check valves	Intelligent Intake Valves (i ² Valve)
Flow accuracy†	±1.0% of set flow rate at 0.500 mL/min, as per SystemsQT™
Flow precision†	≤0.075% RSD or 0.01 min SD, (0.2 to 2.0 mL/min), whichever is greater using premixed solvent

Composition ripple (baseline noise) [†]	≤1.0 mAu
Composition precision [†]	≤0.15% RSD or ± 0.01 min SD, whichever is greater
Composition accuracy [†]	±0.5% absolute from 5% to 95%, 0.2 to 2.0 mL/min
Pressure pulsation [†]	≤0.4% or 25 psi, whichever is greater
Compressibility compensation	Automatic, no user intervention required
Priming	Wet priming runs at a flow rate of 4 mL/min
Pump seal wash	Equipped with a programmable active wash system to flush the rear of the high pressure seals and the plungers
Flow ramping	Automatic
Primary wetted materials	316L stainless steel, UHMWPE blend, MP35N, titanium alloy, gold, sapphire, ruby, zirconia, Nitronic 60, DLC, fluoropolymer, PEEK and PEEK blend
Mixing options	Standard: 50 µL Optional: 100 µL and 380 µL

SAMPLE MANAGER-FTN (SM-FTN-H OR BioSM-FTN-H)

Injection volume range	0.1 to 10.0 µL as standard configuration Up to 1000.0 µL with optional extension loop
Accuracy	±0.2 µL, measured by fluid weight removed from vial with 10.0 µL injections averaged over 20 injections using standard 100-µL syringe
Precision [†]	≤0.25%, 5 to 100 µL
Linearity [†]	≥0.999
Maximum sample capacity	Any two of the following: <ul style="list-style-type: none"> • 96 and 384 microtiter plates • 48 position 2.00-mL vial plates • 48 position 0.65-mL micro-centrifuge tube plates • 24 position 1.50-mL micro-centrifuge tube plates
Sample compartment temperature range	4.0 to 40.0 °C, settable in 0.1 °C increments; maintains 19 °C below ambient with a tolerance range between -2 and +4 °C
Temperature accuracy	±0.5 °C at sensor
Temperature stability	±1.0 °C at sensor
Sample manager heat time	≤30 min ambient -40 °C
Sample manager cool time	≤60 min ambient -4 °C
Injection needle wash	Integrated, active, programmable
Minimum sample required	3 µL residual, using Waters' Total Recovery 2-mL Vials (zero offset)
Sample carryover [†]	≤0.002% caffeine (UV) ≤0.002% sulphadimethoxine (MS)

Advanced sample manager capabilities	Auto-dilution and auto-addition
Primary wetted materials	SM-FTN-H: 316L stainless steel, polyimide, PEEK blend, DLC, PPS bioSM-FTN-H: MP35N, gold plated stainless steel, Vespel SCP, PEEK blend, DLC

COLUMN HEATER (CH-A)

Column capacity	CH-A: Single column, up to 4.6 mm internal diameter (I.D.), up to 150 mm in length with filter or guard column. Mounting extends out for use with MS-based detector
Fittings	18,000 psi, low dispersion, with reusable column inlet fittings
Column compartment temperature range	Settable from 20.0 to 90.0 °C, settable in 0.1 °C increments
Column compartment temperature accuracy	±0.5 °C at sensor
Column compartment temperature stability	±0.3 °C at sensor
Column compartment heat time	≤15 min ambient-60 °C
Solvent conditioning	Active pre-heating as standard; passive pre-heating (for legacy method support)
Column tracking	eCord™ Technology column information management tracks and archives column usage history

COLUMN MANAGEMENT (CM-A)

Column capacity	CM-A: Two columns, as standard (maximum length of 150 mm with filter or guard column) up to 4.6 mm internal diameter (I.D.)
Switching valves	Two nine-port, eight-position valves (CM-A only); provides programmable access switching, waste and bypass positions for rapid solvent changeover
Column compartment(s) temperature range	4.0 to 90.0 °C, settable in 0.1 °C increments; two independent heat/cool zones
Column compartment(s) temperature accuracy	±0.5 °C at sensor
Column compartment(s) temperature stability	±0.3 °C at sensor
Column compartment heat time	≤15 min ambient-60 °C
Column compartment cool time	≤15 min 60–20 °C
Solvent conditioning	Active pre-heating as standard; passive pre-heating (for legacy method support)
Fittings	18,000 psi, low dispersion, with reusable column inlet fittings
Column tracking	eCord Technology column information management tracks and archives column usage history
2D Support	Optional

SAMPLE ORGANIZER

Sample plate capacity	Sample plate capacity is configured based on the types and combinations of plates being used: <ul style="list-style-type: none"> • Maximum of 19 standard microtiter plates, up to 15.5 mm high, or • Maximum of 9 intermediate height plates (or 2-mL vial holders), up to 40.0 mm high, or • Maximum of 6 deep well plates (or 4-mL vial holders), up to 47.0 mm high
Maximum sample capacity	Maximum of 7296 samples in nineteen 384-well plates
Sample compartment temperature range	4.0 to 40.0 °C, settable in 0.1 °C increments with a tolerance range between -2 and +4 °C
Temperature accuracy	±1 °C at the sensor
Temperature stability	±1 °C at the sensor

BASED INSTRUMENTAL CONTROL

External control	Empower™ Software, MassLynx™ Software, UNIFI™ Scientific Information System, or standalone through console software
External communications	Ethernet interfacing via RJ45 connection to host PC
Event inputs/outputs	Rear panel contact closure and/or TTL inputs/outputs
Connections INSIGHT™	Provides real-time monitoring and automatic notification of instrument performance and diagnostic information, allowing for quicker problem resolution

ENVIRONMENTAL SPECIFICATIONS

Acoustic noise	≤62 dBA, system
Humidity - operating	20% to 80%, non-condensing
Operating temperature range	4 to 40 °C

ELECTRICAL SPECIFICATIONS

Power requirements	100 to 240 VAC
Line frequency	50 to 60 Hz
Power consumption	BSM: 360 VAC FTN: 400 VAC CM-A: 400 VAC

PHYSICAL SPECIFICATIONS

ACQUITY UPLC H-Class PLUS System	Width:	34.3 cm (13.5 in.)
with Binary Solvent Management:	Height:	71.1 cm (28.0 in.)
BSM, SM-FTN-H, CH-A	Depth:	71.2 cm (28.0 in.)

ACQUITY UPLC H-Class PLUS System	Width:	34.3 cm (13.5 in.)
with Binary Solvent Management:	Height:	71.1 cm (28.0 in.)
BSM, BioSM-FTN-H, CH-A	Depth:	71.2 cm (28.0 in.)

Sample Organizer	Width:	25.4 cm (10.0 in.)
	Height:	96.5 cm (38.0 in.)
	Depth:	71.1 cm (28.0 in.)

** For specific test conditions, contact your Waters sales representative.*

Waters

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Waters Corporation
 34 Maple Street
 Milford, MA 01757 U.S.A.
 T: 1 508 478 2000
 F: 1 508 872 1990
www.waters.com

Subject	Description	Contact	Author	Issue
Employee Question of the Month			Jessica	Sep-21
Wellness Tip			Jessica	Aug-21
Ivanti System	WVOT is creating a self-service portal. Agencies will be able to enter CTO requests into system. Running pilot test group	Hope Fout	Jessica	Sep-21
PDS Keynote speaker	The agency's Criminal Justice Specialist, Stephanie C. Thornton, is the Keynote Speaker for the annual Poverty Law Conference in Texas. Her topic will be. "Not My New Normal! A Self-Compassion		Teresa	Sep-21
Google managed browser, drive	don't wait to start testing things like docs, sheets, even though MS will be available for a year		Jessica	Sep-21
WVOT Print Shop	update prices		Teresa	Sep-21
National Preparedness Month	info at ready.gov		Jessica	
Ethics opinion review				Future
Surplus content from BN				

Xevo TQ-XS

Xevo™ TQ-XS is an ultimate performance benchtop tandem quadrupole mass spectrometer which expands the scope of ultimate sensitivity analysis. It features StepWave™ XS ion transfer optics delivering enhanced sensitivity, robustness, and reliability; passively removing gas load and undesirable neutral contaminants while actively transferring ions into the mass analyzer.

Sensitivity benefits are more accessible as the Xevo TQ-XS also features a tool-free probe design which allows users much easier maintenance, optimization and improved reproducibility between operators. Method transfer onto the Xevo TQ-XS is made simple by the Xtended Dynamic Range (XDR™) Detector which allows six orders of linear dynamic range. Wider compound coverage without changing ionization technique is delivered by the revolutionary UniSpray™ source option.

In addition to these benefits, users can combine quantitative MRM with qualitative MS data acquisition through RADAR™ and confirm low levels of compounds using ScanWave™ enhanced Product Ion Confirmation scanning. The MassLynx™ Software supporting this instrument ensures that automated system optimization, status monitoring, results review, and reporting is a smooth process using IntelliStart™ and TargetLynx™ XS.



SYSTEM HARDWARE SPECIFICATIONS

API sources and ionization modes	<p>High performance ZSpray™ dual-orthogonal API sources:</p> <ol style="list-style-type: none"> 1) Multi-mode source – tool free ESI/APCI/ESCI™ (standard) NB – Dedicated APCI requires an additional probe (optional) 2) UniSpray ion source (optional) 3) Tool-free APCI probe (optional) 4) nanoFlow™ ESI source (optional) 5) ASAP (optional) 6) APGC ion source (optional) 7) ionKey™ source (optional) <p>Optimized gas flow dynamics for efficient ESI desolvation (supporting LC flow rates up to 2 mL/min)</p> <p>Tool-free source exchange</p> <p>Vacuum isolation valve</p> <p>Tool-free access to user serviceable elements</p> <p>Plug-and-play probes</p> <p>De-clustering cone gas</p> <p>Software control of gas flows and heating elements</p>
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UniSpray ion source option	UniSpray is a novel ionization technique designed to broaden the scope of compounds which can be analyzed in a single run, including those which typically optimize in ESI, APCI or APPI. Enhanced ionization efficiency and desolvation allow the potential to combine several methodologies into one, or simply enable the operator to keep the same source for multiple methods, requiring less time performing set-up and routine maintenance, and more time delivering results
Ion source transfer optics	StepWave XS ion transfer optics delivering class leading UPLC®-MS/MS sensitivity. The unique off-axis design and segmented quadrupole second stage dramatically increases the efficiency of ion transfer from the ion source to the quadrupole MS analyzer at the same time as actively eliminating undesirable neutral contaminants
Mass analyzer	Two high-resolution, high-stability quadrupole analyzers (MS1/MS2), plus pre-filters to maximize resolution and transmission while preventing contamination of the main analyzers
Collision cell	T-Wave™ enabled for optimal MS/MS performance at high data acquisition rates; ScanWave enabled for enhanced MS/MS spectral performance (product ion scanning); Software programmable gas control
Detector	Low-noise, off-axis, long-life photomultiplier XDR detector
Vacuum system	Three air-cooled turbomolecular vacuum pumps One vacuum backing pump
Dimensions	Width: 61.0 cm (24.0 in.) Height: 70.7 cm (27.8 in.) Depth: 99.5 cm (39.0 in.)
Regulatory approvals/marks	CE, CB, NRTL (CAN/US), RCM

SYSTEM SOFTWARE SPECIFICATIONS

Software	Systems supported on MassLynx version 4.2 or later; OpenLynx™ and TargetLynx XS Application Managers are included as standard
IntelliStart Technology	System parameter checks and alerts Integrated sample/calibrant delivery system + programmable divert valve Automated mass calibration Automated sample tuning Automated SIR and MRM method development UPLC-MS/MS System Check – automated on-column performance test
Automated MRM scheduling (acquisition rate assignment)	Dwell time, inter-channel delay time and inter-scan delay time for individual channels in a Multiple MRM experiment can be automatically assigned (using the Auto-Dwell feature) to ensure that the optimal number of MRM data points per chromatographic peak are acquired. The Auto-Dwell feature dynamically optimizes MRM cycle times to accommodate retention time windows that overlap. This greatly simplifies MRM method creation, irrespective of the number of compounds in a single assay, while at the same time ensuring the very best quantitative performance for every experiment

Automated MRM scheduling (acquisition window assignment)	Multiple MRM experiments can be scheduled (manually or automatically using the Quanpedia database) using retention time windows to optimize the cycle time for each MRM channel monitored. If required, MRM retention time windows can overlap partially or completely, ensuring that MRM data acquisition rates will be optimal for the quantification of all analytes in a given assay
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PERFORMANCE SPECIFICATIONS

Acquisition modes	<p>Full scan MS</p> <p>Product ion scan (ScanWave enhanced)</p> <p>Precursor ion scan</p> <p>Constant neutral loss scan</p> <p>Selected ion recording (SIR)</p> <p>Multiple reaction monitoring (MRM)</p> <p>Simultaneous Full scan and MRM (RADAR)</p>
Survey scan modes	<p>Full scan MS data acts as an automatic trigger for the collection of ScanWave-enhanced product ion spectra</p> <p>Precursor ion scan data acts as an automatic trigger for the collection of ScanWave-enhanced product ion spectra</p> <p>Constant neutral scan data acts as an automatic trigger for the collection of ScanWave-enhanced product ion spectra</p>
Product ion confirmation (PIC) mode	MRM data acts as an automatic trigger for the collection of ScanWave-enhanced product ion spectra
RADAR	An information rich acquisition approach that allows you to collect highly specific quantitative data for target compounds while providing the ability to visualize all other components
Mass range	2 to 2048 <i>m/z</i>
Scan speed	<p>Up to 20,000 Da/s</p> <p>Examples of achievable acquisition rates:</p> <p>20 scans per second (<i>m/z</i> 50 to 1000)</p> <p>40 scans per second (<i>m/z</i> 50 to 500)</p>
Mass stability	Mass assignment will be within +/-0.05 Da over a 24 hour period (the instrument must be operated in conformance with the laboratory environmental guidelines given in the Xevo TQ-XS site preparation guide)
Linearity of response	The linearity of response relative to sample concentration, for a specified compound, is six orders of magnitude from the limit of detection
Polarity switching time	15 ms to switch between positive and negative ion modes
MS to MS/MS switching time	3 ms
ESCI mode switching time	20 ms to switch between ESI and APCI
MRM acquisition rate	<p>Maximum acquisition rate of 500 MRM data points per second;</p> <p>Minimum dwell time of 1 ms per MRM channel;</p> <p>Minimum inter-channel delay of 1 ms</p>

Inter-channel cross talk	The inter-channel cross talk between two MRM transitions, acquired using an MRM dwell time of 1 ms and an inter-channel delay time of 1 ms, is less than 0.001%
Number of MRM channels	Up to 32,768 MRM channels (1,024 functions, 32 channels per function) can be monitored in a single acquisition; up to 1,024 MRM channels when operating in GLP/secure mode (32 functions, 32 channels per function).
Mass resolution	Automatically adjusted (IntelliStart) to desired resolution; (0.50 Da, 0.75 Da or 1.00 Da FWHM)
MRM sensitivity (ESI+)	A 1 pg on-column injection of reserpine will give a chromatographic signal-to-noise greater than 750,000:1, using raw unsmoothed data (Gradient separation, LC mobile phase flow rate of 0.4 mL/min, MRM transition m/z 609 > 195). The Instrument Detection Limit (IDL) from ten replicate injections has been calculated to be less than 0.4 fg reserpine.
MRM sensitivity (ESI-)	A 1 pg on-column injection of chloramphenicol will give a chromatographic signal-to-noise greater than 750,000:1, using raw unsmoothed data (Gradient separation, LC mobile phase flow rate of 0.8 mL/min, MRM transition m/z 321 > 152). The Instrument Detection Limit (IDL) from ten replicate injections has been calculated to be less than 1 fg chloramphenicol.
MRM sensitivity (APCI+)	A 1 pg on-column injection of 17- α -hydroxyprogesterone will give a chromatographic signal-to-noise greater than 300:1, using raw unsmoothed data (Gradient separation, LC mobile phase flow rate of 0.8 mL/min, MRM transition m/z 331 > 109)
MRM sensitivity (GC/MS)	A 500ag on column injection of 2,3,7,8 Tetrachlorodibenzo-p-dioxin (TCDD) will give a chromatographic signal to noise greater than 20:1, using raw unsmoothed data (1 μ L Pulsed Splitless injection, Helium flow rate of 2 mL/min, MRM transition m/z 322 > 259 and m/z 320 > 257)

It should be noted that the above are not standard installation specifications. All Xevo TQ-XS instruments will be installed and tested in accordance with standard commissioning tests as detailed in Waters document (Xevo TQ-XS Installation Checklist). Performance specifications given in this document and installation test criteria are routinely reviewed to ensure quality is maintained and are therefore subject to change without notice. See Site Preparation Guide and Product Release Notes for additional product and specification information.

For patent information, please see www.waters.com/patents

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Waters Corporation
34 Maple Street
Milford, MA 01757 U.S.A.
T: 1 508 478 2000
F: 1 508 872 1990
waters.com

[XEVO TQ-XS]

EXPANDING ULTIMATE SENSITIVITY ANALYSIS.
MAXIMIZING YOUR COMPOUND COVERAGE.



TQ-XS

Waters

THE SCIENCE OF WHAT'S POSSIBLE.™

Xevo TQ-XS

ONE SYSTEM, **EVERY ANALYTE, ALL THE TIME.**

Demands on analytical laboratories are constantly changing and it is essential to keep pace with these demands. You need to be able to develop robust methods quickly, get the same result every time, and generate data you can trust for confident decision-making.

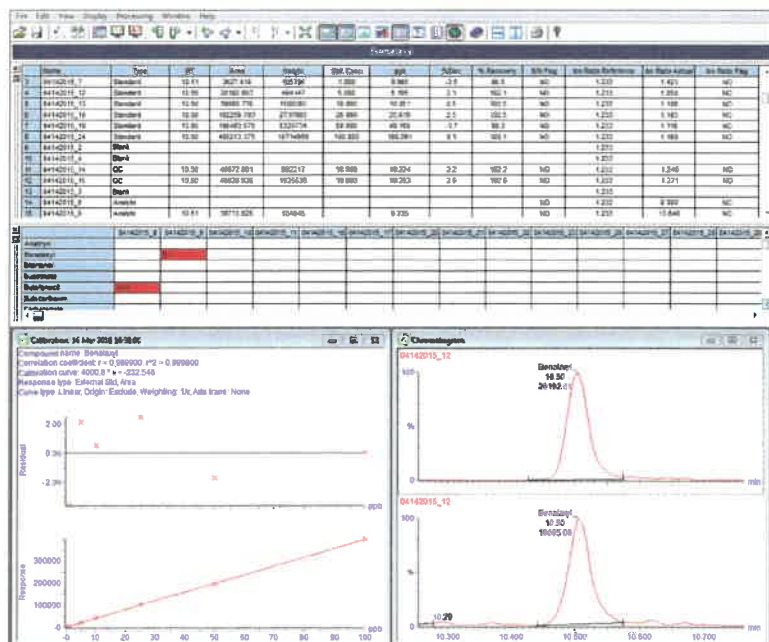
The Xevo™ TQ-XS is the next revolutionary product in the long line of high-performance tandem quadrupole instruments from Waters™. With market-leading performance, this mass spectrometer introduces new levels of ultimate sensitivity for more compounds than ever before. Innovative new research has led to levels of reliability, reproducibility, and performance never previously seen in quantitative analysis.



ACQUITY UPLC™ I-Class System with Xevo TQ-XS.

ACHIEVE THE SENSITIVITY YOU NEED IN YOUR LAB.

Designed to perform a wide variety of applications, the Xevo TQ-XS fits perfectly in fields such as bioanalysis, clinical medical research, forensic toxicology, food safety, agrochemical, and environmental testing where the highest levels of sensitivity are required. Whether you are analyzing small or large molecules, single analytes, or multiple panels of compounds, the Xevo TQ-XS will give you the results you need the first time and without complication.



Comprehensive and streamlined results review with TargetLynx XS™ software, which flags any results outside user-defined tolerances.



Oasis™ PRiME HLB is the first-of-its-kind solid-phase extraction (SPE) sorbent that sets the new performance standard for routine analyses.

HIGH-PERFORMANCE TECHNOLOGY

STEP WAVE XS

Redesigned ion guide that provides increased sensitivity for challenging compounds while further improving the levels of robustness for ultra trace level analysis.

XDR™ Detector

Enhanced detection system with six orders of linear dynamic range to ensure sensitivity is accessible.

ESI/APCI Probe

Tool-free probe design to reduce the time taken for any routine maintenance and provide improved reproducibility between users.

ScanWave™

Provides enhanced Product Ion Confirmation scanning (PICs) sensitivity, enabling confidence in analyte identification.

RADAR™

Simultaneous quantitative and qualitative data acquisition for better understanding of sample complexity and improved method development.

Universal Ion Source Architecture

The most extensive range of interface capabilities available to service the broadest range of applications.

PUSHING THE BOUNDARIES. LEADING TECHNOLOGY.

Waters market-leading separation technologies include the ACQUITY™ UPLC family of LC systems, ACQUITY UPC²™ and APGC. Application flexibility is further enhanced by the range of quickly interchangeable ion source options made possible by universal ion source architecture. The Xevo TQ-XS is compatible with all these options, including these highlighted innovative technologies:

■ UniSpray™

A novel ionization technique, exclusive to Waters, with wide compound coverage and potential sensitivity benefits. With applicability over a broad range of analytes and a simplified probe design, you can spend less time changing sources and performing maintenance, and more time analyzing your samples.



■ ionKey™

Enhanced MS with the turn of a key – ionKey/MS. This revolutionary micro-flow separation enables laboratories to do more with less. More sensitivity. More information from the same sample. More instrument uptime. More users capable of performing analyses.

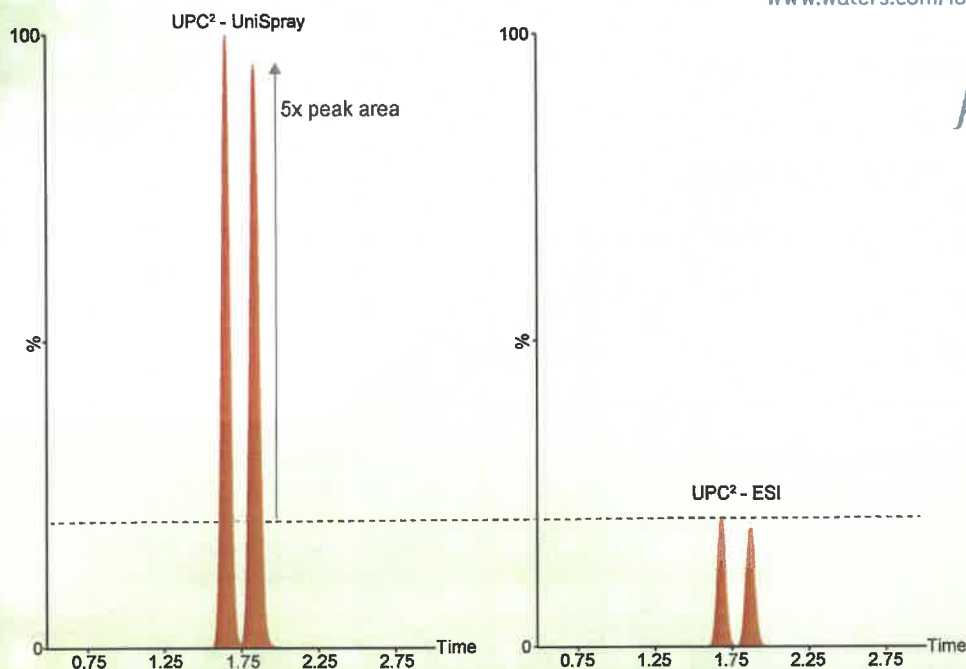


■ ESI/APCI probe design

Innovative new probe design allowing routine maintenance to be completed in minutes with reproducible operator to operator performance.



To see the extensive range of ionization options on the Xevo TQ-XS, please visit, www.waters.com/ionsources



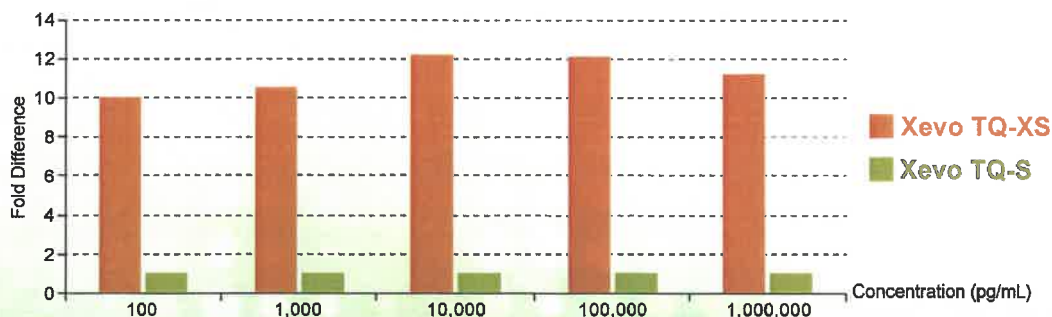
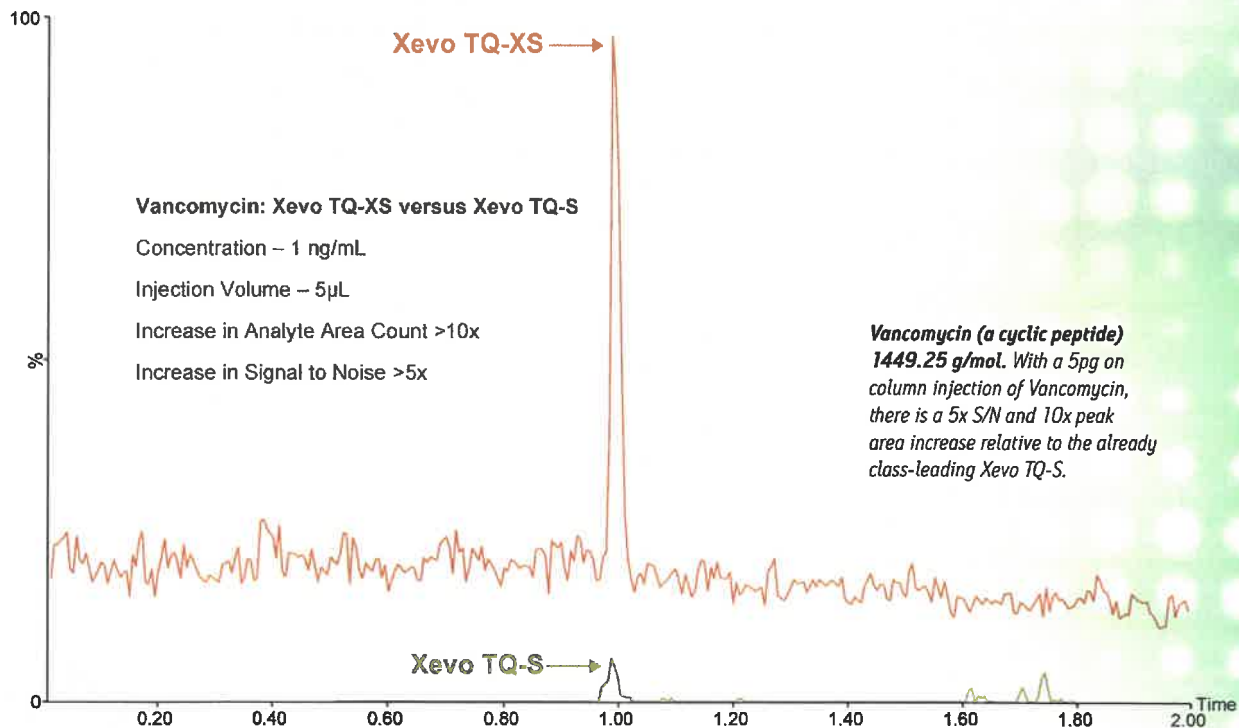
ACQUITY UPC²-MRM chromatogram showing the enantioseparation for the triazole fungicide tebuconazole, using either UniSpray or ESI. When using UniSpray, improvements in peak area are observed versus ESI.

PHARMACEUTICAL QUANTITATION. COMPLEXITY SIMPLIFIED.

The pharmaceutical industry is producing a variety of complex molecules, and performance demands are greater than ever. Biotherapeutics are increasingly being developed and are now a significant part of the total drug market. Pharmaceutical research and development laboratories across the globe are incorporating the technological and scientific expertise required to deal with the complexities such analyses bring. The growing diversity within the drug

market ranges from small molecules, metabolites, small linear or cyclic peptides, all the way to complex monoclonal antibodies and antibody drug conjugates.

In this strict regulatory environment, where compliance is of paramount importance, you need to be able to analyze more compounds with better and faster results. Be equipped to quantify the most challenging compounds with market-leading sensitivity, robustness, and reproducibility.



Vancomycin: Xevo TQ-XS versus Xevo TQ-S. On average, the analyte area counts on Xevo TQ-XS were >10x higher than area counts on Xevo TQ-S for Vancomycin.

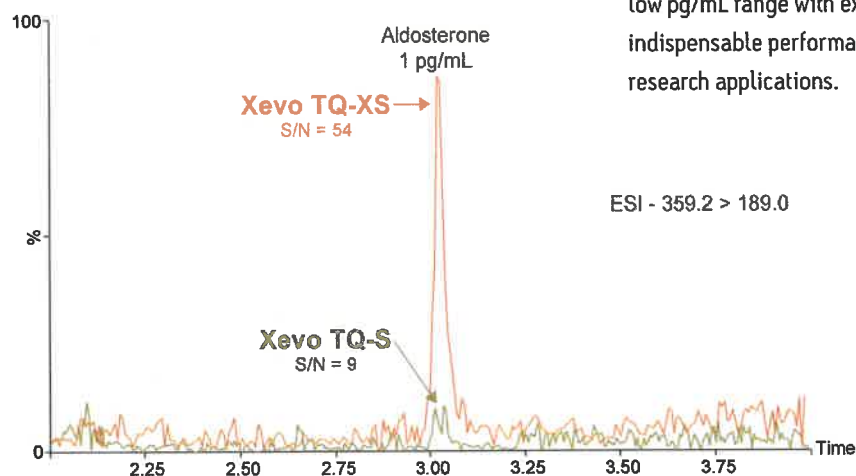
TRANSLATIONAL AND CLINICAL RESEARCH. ESSENTIAL PERFORMANCE FOR LEADERS.

The requirement to reliably measure both endogenous metabolites and proteins at low concentration levels is vital for successful clinical research and biomarker verification studies. Methods used in clinical research and biomarker verification must be reproducible sample after sample across multiple centers.

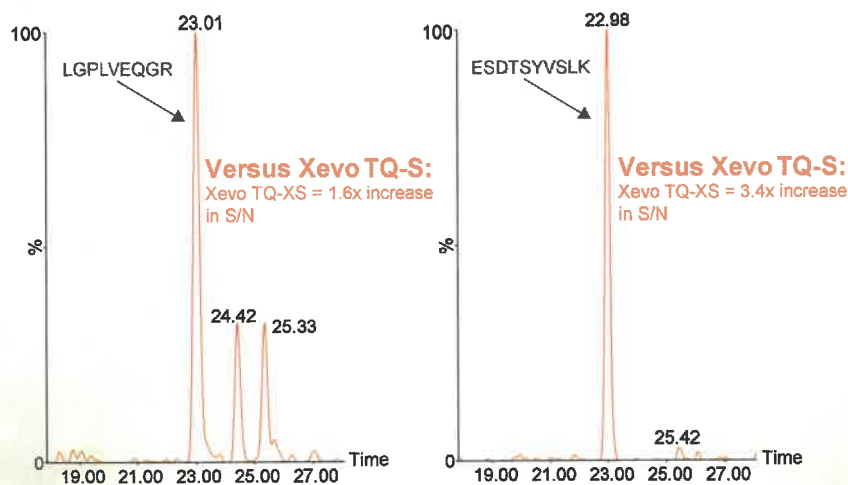
The Xevo TQ-XS provides unmatched sensitivity and robustness to provide the highest quality data necessary to meet the standards for acceptance in today's peer-reviewed clinical research journals.

For peptide quantitation, the combination of the Xevo TQ-XS with ionKey/MS produces unrivalled performance and ease-of-use at low flow rates. The sensitivity of the Xevo TQ-XS is typically 10x or better than standard flow UPLC-MS/MS systems, enabling increased reproducibility for the reliable quantitation of low abundance proteins.

Endogenous steroids, such as aldosterone, are involved in many biological pathways and therefore frequently monitored in research programs. Data collected using the Xevo TQ-XS demonstrate sensitivity in the low pg/mL range with exceptional precision, delivering indispensable performance for demands of clinical research applications.



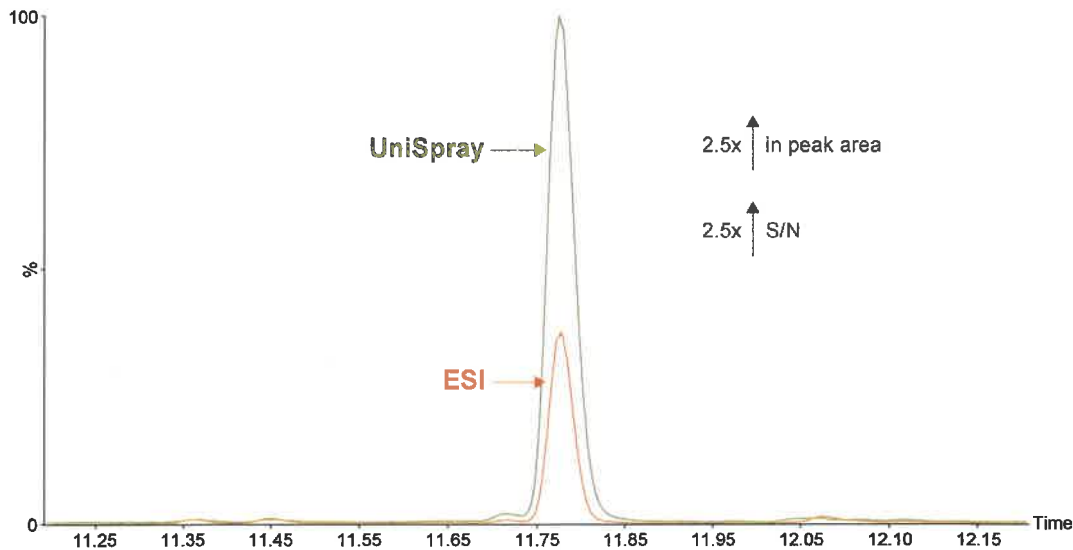
UPLC/MRM 50 fg on column aldosterone in ESI negative showing >5x increase in S/N.



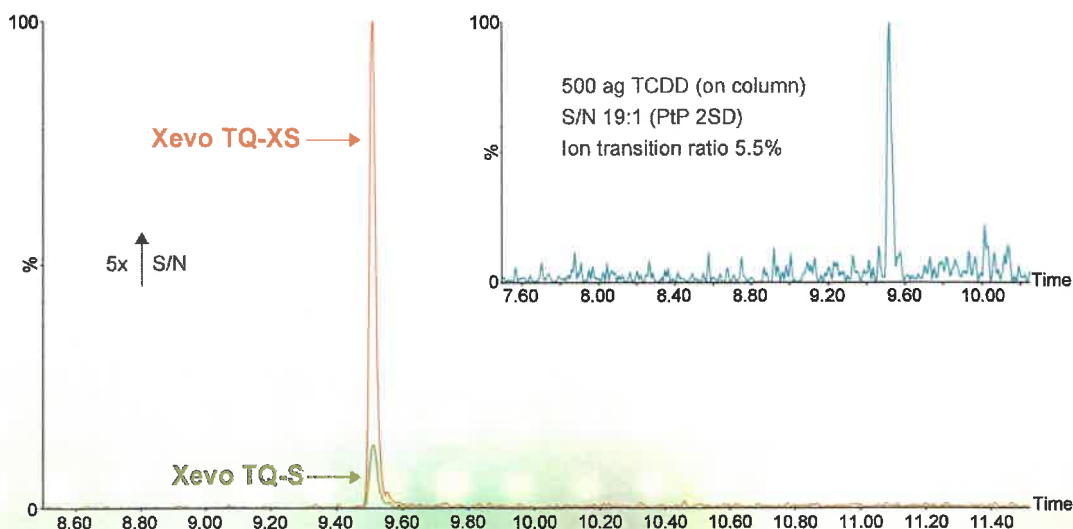
When combined with the unique ionKey/MS, the Xevo TQ-XS offers unmatched sensitivity for peptide quantitation. In the example shown here, the Xevo TQ-XS is routinely and reliably able to measure peptides at concentrations of 0.125 fmol/μL level in non-depleted tryptically digested serum from a 1μL injection.

FOOD AND ENVIRONMENTAL TESTING LABORATORIES. EXPANDED FLEXIBILITY.

With increasing global trade and ever changing regulations, the challenges associated with food testing and environmental monitoring continue to impact laboratory performance. Having the most effective analytical solution is more important than ever to ensure the safety of the public and the environment. The Xevo TQ-XS provides combined ultimate sensitivity and flexibility for your food and environmental quantitative and confirmatory analyses, allowing you to quantify banned and restricted analytes of interest with confidence.



UniSpray provides improved sensitivity for $10 \mu\text{g}\cdot\text{kg}^{-1}$ fenpropimorph in green tea allowing for increased flexibility to dilute matrix without impacting analyte detection.



The pioneering EU Commission Regulation 2014/589 now permits GC-MS/MS for the confirmatory analysis of dioxins in food and feed.

APGC coupled with Xevo TQ-XS offers a 5x increase in sensitivity for 10 fg 2,3,7,8-tetrachlorodibenzo-p-dioxin on column. Inset illustrates unparalleled sensitivity for 500 attograms of TCDD ($1 \mu\text{l}$ injection volume). Ion transition ratio ($319.9 > 256.9$ to $321.9 > 258.9 \text{ m/z}$), relative to the theoretical ratio were within the regulatory permitted 15% tolerance for all concentrations.

IMPROVED LAB EFFICIENCY. BETTER USABILITY.

In an environment where every second counts, you need a solution that will maximize your efficiency. Waters' laboratory informatics software provides a powerful suite of solutions allowing you to convert scientific data into useful information.

Focus on what you do with the data, not how you get it, so you can accelerate decision making, improve laboratory effectiveness, and get results faster.

High Productivity, Minimal Complexity

IntelliStart™ simplifies system set-up with a user-friendly interface that automates routine tasks, reduces the burden of complicated operation, and introduces consistency between users.

Simple, Integrated Method Databases

The extensive and searchable QUANPEDIA™ database allows for efficient management and optimization of quantitative LC-MS/MS method information, including automatic time scheduling of MRMs and automated generation of acquisition and processing methods.

Critical QC Information Delivered Real Time

Automated real-time QC checking ensures that valuable samples and instrument time are not wasted.

Comprehensive Data Processing with Streamlined Results Review

TargetLynx XS now provides the ability to perform standard addition to accurately calculate analyte concentrations in complex samples despite extreme matrix variability. This software streamlines automated quantitative data review and reporting, minimizing the possibility of errors. TargetLynx XS provides a clear overview of QC checks, statistics and results, flagging any results outside user-defined tolerances.

Confidence in Your System Performance

Trending inter and intra batch QC and sample results over time is easy with TrendPlot, with clear graphical displays to enable quick decision making. Drag and drop capabilities eliminate the need for manual result transcription, allowing faster delivery of results.



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We have a range of offerings to service and support your Xevo TQ-XS:

- Our Professional Services team is ready to provide onsite training and consultation for integrating your new Xevo TQ-XS into your laboratory and assist with your data migration and method transfer needs.

- Through our comprehensive portfolio of service plans, the Waters Service Team provides the most in-depth and up-to-date knowledge of the advanced science and technologies within Waters systems. This knowledge enables us to protect and enhance the value of your investment in our high performance instruments.
- In addition, our Compliance Services can simplify the process of qualification, validation, and record-keeping so that your business can focus on delivering products to market. We work with you to ensure you are able to meet the regulations in your industry and in the countries where you conduct business.

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Xevo TQ-S micro

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SENSITIVITY ▲

[XEVO TQ-XS]



↑ SENSITIVITY ↑



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Waters Corporation
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Milford, MA 01757 U.S.A.
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