

All Public Work Projects are required to use the Louisiana Uniform Public Work Bid Form

All prices must be held firm unless an escalation provision is requested in this bid. Jefferson Parish will allow one escalation during the term of the contract, which may not exceed the U.S. Bureau of Labor Statistics National Index for all Urban Consumers, unadjusted 12 month figure. The most recently published figure issued at the time an adjustment is requested will be used. A request must be made in writing by the vendor, and the escalation will only be applied to purchases made after the request is made.

Are you requesting an escalation provision?

YES _____ NO ☒

MAXIMUM ESCALATION PERCENTAGE REQUESTED _____% 07/22/2016

INITIAL BID PRICES WILL REMAIN FIRM THROUGH THE DATE OF _____.

For the purposes of comparison of bids when an escalation provision is requested, Jefferson Parish will apply the maximum escalation percentage quoted by the bidder to the period to which it is applied in the bid. The initial price and the escalation will be used to calculate the total bid price. It will be assumed, for comparison of prices only, that an equal amount of material or labor is purchased each month throughout the entire contract.

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES

7 Weeks ARO

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable)

N/A

THIS SECTION MUST BE COMPLETED BY BIDDER:

FIRM NAME: Agilent Technologies, Inc.

ADDRESS: 2850 Centerville Road

CITY, STATE: Wilmington, DE ZIP: 19808

TELEPHONE: (800) 227-9770 FAX: (302) 993-5941

EMAIL ADDRESS: lscabids@agilent.com

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: N/A

NUMBER: _____

NUMBER: _____

NUMBER: _____

TOTAL PRICE OF ALL BID ITEMS: \$ 37,144.80

AUTHORIZED SIGNATURE: 

Georgeann Foster

TITLE: Business Sales Specialist

Printed Name

SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the BID NUMBER and BID OPENING DATE indicated on the outside of the envelope submitted to the Purchasing Department.

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00116919

SEALED BID

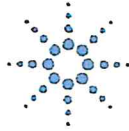
ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	1.00	EA	<p>A ONE-TIME PURCHASE AND INSTALLATION OF A GAS CHROMATOGRAPH AND AUTOSAMPLER FOR THE JEFFERSON PARISH DEPARTMENT OF WATER, WATER LAB</p> <p>0010 - AGILENT G3440B, 7890B GAS CHROMATO-GRAPH CUSTOM,</p> <p>INCLUDES: LAN INTERFACE, 7693 INTERFACE, 20-RAMP OVEN PROGRAMMING, 6 HEATED ZONES, 2 ANALOG OUT, KEYBOARD AND DISPLAY PRESSURE SETPOINTS TO 0.001 PSI WITH THE FOLLOWING CONFIGURATION: CAPILLARY SPLIT/SPLITLESS INLET WITH ELECTRONIC PNEUMATICS CONTROL (EPC), MICRO ELECTRON CAPTURE DETECTOR WITH EPC, FACTORY PLUMBING FOR QUICK INSTALLATION, OVEN EXHAUST DEFLECTOR</p> <p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p> <p>INSTRUMENT MUST WORK WITH EXISTING SOFTWARE ANALYSIS PACKAGE</p>	23,080.80	23,080.80
2	1.00	EA	<p>0020 - AGILENT G4513A, 7693A AUTOINJECTOR</p> <p>INCLUDES: TRANSFER TURRET, 16-SAMPLE TURRET, MOUNTING POST, PARKING POST FOR GC, 10 UL SYRINGE, AND SOLVENT BOTTLES.</p> <p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p>	6,257.60	6,257.60
3	1.00	EA	<p>0030 - AGILENT G4514A, 7693 TRAY, 150 VIAL INCLUDES 3 REMOVABLE</p> <p>50 VIAL RACKS AND GC MOUNTING BRACKET</p> <p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p>	7,358.40	7,358.40
4	1.00	EA	<p>0040 - AGILENT 123-5631, DB-5.625 COLUMN, 30 M, 0.32 MM, 0.25 UM</p> <p>*****</p> <p>INSTRUMENT WILL BE USED FOR THE ANALYSIS OF FEDERALLY REGULATED DISINFECTION BY- PRODUCTS IN DRINKING WATER.</p> <p>INSTRUMENT MUST BE COMPATIBLE WITH EXISTING AGILENT SOFTWARE PACKAGE THAT CONTROLS THE INSTRUMENT ITSELF.</p>	448.00	448.00

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00116919

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
			<p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p> <p>INSTALLATION TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING:</p> <ul style="list-style-type: none">*ACTUAL SET-UP OF THE INSTRUMENT*INSTALL OF THE VARIOUS COMPONENTS SUCH AS: THE COLUMN AND THE AUTOSAMPLER*VENDOR TO ENSURE THAT THE INSTRUMENT COMMUNICATES TO EXISTING SOFTWARE PACKAGE*SET-UP OF THE METHOD FOR THIS PARTICULAR ANALYSIS WITHIN THE SOFTWARE*VENDOR TO ASSEMBLE COMPONENTS ON/IN THE NEW INSTRUMENT BEFORE USE <p>*****</p> <p>*Agilent Technologies, Inc. (Agilent) is bidding in accordance with attached quotation 2059418. Please refer to the quotation and attached literature for details.</p> <p>In reference to Insurance, Agilent is including a Memorandum of Insurance. The insurance provisions listed on the Memorandum indicate the insurance coverage Agilent will evidence if awarded this contract. If Agilent is the successful bidder an Agilent Standard ACORD 25 Certificate of Insurance will be provided upon notification from the customer.</p>		



Agilent Technologies

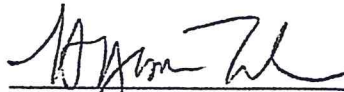
**SIGNATURE AUTHORIZATION FOR BIDS, QUOTES,
CONTRACTS, BID BONDS AND PERFORMANCE BONDS**

RESOLVED: That effective as of September 17, 2014, the Chief Financial Officer, Secretary and Assistant Secretary, and each of them, is hereby empowered on behalf of the Company to sign bids, quotations, leases and contracts with customers and government agencies, including such bids and performance bonds as may be required in connection with such bids and contracts, and each is further empowered to authorize employees of the Company to sign such bids, quotations, leases, contracts and bid and performance bonds.

I, Hajime Tada, do hereby certify that I am the Vice President and Deputy General Counsel of Agilent Technologies, Inc., a Delaware corporation (the "Company"); that the foregoing is a full, true and correct copy of the resolution adopted by the Board of Directors of the Company on September 17, 2014; and that the resolution has not been annulled, rescinded, or revoked and remains in full force and effect. I, Hajime Tada, pursuant to authority granted to me by the Assistant Secretary of the Company, hereby authorize Georgeann Foster to sign bids, quotes, leases, contracts, bid bonds and performance bonds with government agencies and other customers on behalf of the Company, up to the amount of two million five hundred thousand U.S. dollars (\$2,500,000).

IN WITNESS WHEREOF, I have signed my name below.

Dated: January 5, 2016


Hajime Tada

CORPORATE RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF

INCORPORATED.

AT THE MEETING OF DIRECTORS OF _____
INCORPORATED, DULY NOTICED AND HELD ON _____,
A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT
WAS:

RESOLVED THAT _____, BE AND IS HEREBY
APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-
FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON
BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS
AND TRANSACTIONS WITH THE PARISH OF JEFFERSON OR ANY OF ITS AGENCIES,
DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE
EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES,
CONTRACTS AND ACTS AND TO RECEIVE ALL PURCHASE ORDERS AND NOTICES
ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID OR CONTRACT, THIS
CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING, AND ACCEPTING
EACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-
FACT.

I HEREBY CERTIFY THE FOREGOING TO BE
A TRUE AND CORRECT COPY OF AN
EXCERPT OF THE MINUTES OF THE ABOVE
DATED MEETING OF THE BOARD OF
DIRECTORS OF SAID CORPORATION, AND
THE SAME HAS NOT BEEN REVOKED OR
RESCINDED.

SECRETARY-TREASURER

DATE

Non-Public Works Bid Affidavit Instructions

- **Affidavit is supplied as a courtesy to Affiants, but it is the responsibility of the affiant to insure the affidavit they submit to Jefferson Parish complies, in both form and content, with federal, state and parish laws.**
- **Affidavit must be signed by an authorized representative of the entity or the affidavit will not be accepted.**
- **Affidavit must be notarized or the affidavit will not be accepted.**
- **Notary must sign name, print name, and include bar/notary number, or the affidavit will not be accepted.**
- **Affiant MUST select either A or B when required or the affidavit will not be accepted.**
- **Affiants who select choice A must include an attachment or the affidavit will not be accepted.**
- **If both choice A and B are selected, the affidavit will not be accepted.**
- **Affidavit marked N/A will not be accepted.**
- **It is the responsibility of the Affiant to submit a new affidavit if any additional campaign contributions are made after the affidavit is executed but prior to the time the council acts on the matter.**

Instruction sheet may be omitted when submitting the affidavit

Non-Public Works Bid

AFFIDAVIT

STATE OF Pennsylvania

County Montgomery
PARISH/COUNTY OF _____

BEFORE ME, the undersigned authority, personally came and appeared: Georgeann Foster
_____, (Affiant) who after being by me duly sworn, deposed and said that
he/she is the fully authorized Busiess Sales Specialist of Agilent Technologies, Inc. (Entity),
the party who submitted a bid in response to Bid Number 50-00116919, to the Parish of
Jefferson.

Affiant further said:

Campaign Contribution Disclosures

(Choose A or B, if option A is indicated please include the required attachment):

Choice A _____ Attached hereto is a list of all campaign contributions, including the date and amount of each contribution, made to current or former elected officials of the Parish of Jefferson by Entity, Affiant, and/or officers, directors and owners, including employees, owning 25% or more of the Entity during the two-year period immediately preceding the date of this affidavit or the current term of the elected official, whichever is greater. Further, Entity, Affiant, and/or Entity Owners have not made any contributions to or in support of current or former members of the Jefferson Parish Council or the Jefferson Parish President through or in the name of another person or legal entity, either directly or indirectly.

Choice B ✓ there are **NO** campaign contributions made which would require disclosure under Choice A of this section.

Debt Disclosures

(Choose A or B, if option A is indicated please include the required attachment):

Choice A _____ Attached hereto is a list of all debts owed by the affiant to any elected or appointed official of the Parish of Jefferson, and any and all debts owed by any elected or appointed official of the Parish to the Affiant.

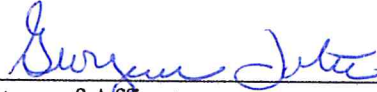
Choice B ✓ _____ There are **NO** debts which would require disclosure under Choice A of this section.

Affiant further said:

That Affiant has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for Affiant; and

[The remainder of this page is intentionally left blank.]

That no part of the contract price received by Affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for Affiant.



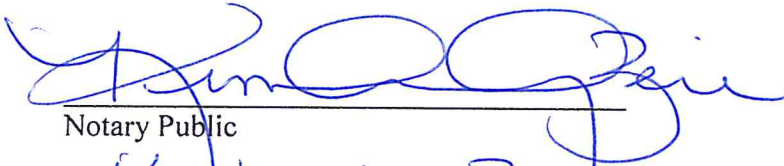
Signature of Affiant

Georgeann Foster

Printed Name of Affiant

SWORN AND SUBSCRIBED TO BEFORE ME

ON THE 30 DAY OF June, 2016



Notary Public

Kimberly Zera
Printed Name of Notary

N/A
Notary/Bar Roll Number

COMMONWEALTH OF PENNSYLVANIA

NOTARIAL SEAL

Kimberly Zera, Notary Public
Whitemarsh Twp., Montgomery County
My Commission Expires May 5, 2018

MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

My commission expires 05 May 18

Memorandum of Insurance

MEMORANDUM OF INSURANCE					DATE 26-Oct-2015	
<p>This Memorandum is issued as a matter of information only to authorized viewers for their internal use only and confers no rights upon any viewer of this Memorandum. This Memorandum does not amend, extend or alter the coverage described below. This Memorandum may only be copied, printed and distributed within an authorized viewer and may only be used and viewed by an authorized viewer for its internal use. Any other use, duplication or distribution of this Memorandum without the consent of Marsh is prohibited. "Authorized viewer" shall mean an entity or person which is authorized by the insured named herein to access this Memorandum via https://online.marsh.com/marshconnectpublic/marsh2/public/moi?client=154071580. The information contained herein is as of the date referred to above. Marsh shall be under no obligation to update such information.</p>						
PRODUCER			COMPANIES AFFORDING COVERAGE			
Marsh USA Inc. dba Marsh USA Risk & Insurance Services ("Marsh")			Co. A Old Republic Insurance Company			
INSURED			Co. B			
Agilent Technologies, Inc. 5301 Stevens Creek Blvd. M/S 1A-IR, Santa Clara California 95051 United States			Co. C			
			Co. D			
COVERAGES						
<p>THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS MEMORANDUM MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS</p>						
CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE	POLICY EXPIRATION DATE	LIMITS LIMITS IN USD UNLESS OTHERWISE INDICATED	
A	GENERAL LIABILITY Commercial General Liability Occurrence	MWZY 305618	01-NOV-2015	01-NOV-2016	GENERAL AGGREGATE	USD 3,000,000
					PRODUCTS - COMP/OP AGG	USD 3,000,000
					PERSONAL AND ADV INJURY	USD 3,000,000
					EACH OCCURRENCE	USD 3,000,000
					FIRE DAMAGE (ANY ONE FIRE)	USD 3,000,000
					MED EXP (ANY ONE PERSON)	USD 5,000
					A	AUTOMOBILE LIABILITY Any Auto
BODILY INJURY (PER PERSON)						
BODILY INJURY (PER ACCIDENT)						
PROPERTY DAMAGE						
	EXCESS LIABILITY				EACH OCCURRENCE	
					AGGREGATE	
	GARAGE LIABILITY				AUTO ONLY (PER ACCIDENT)	
					OTHER THAN AUTO ONLY:	
					EACH ACCIDENT	

					AGGREGATE	
A	WORKERS	MWC	01-NOV-2015	01-NOV-2016		
A	COMPENSATION /	30561900 - CA	01-NOV-2015	01-NOV-2016	WORKERS COMP	Statutory
	EMPLOYERS	MWC			LIMITS	
	LIABILITY	30561700 -			EL EACH ACCIDENT	USD 3,000,000
	THE	AOS			EL DISEASE - POLICY	USD 3,000,000
	PROPRIETOR /				LIMIT	
	PARTNERS /				EL DISEASE - EACH	USD 3,000,000
	EXECUTIVE				EMPLOYEE	
	OFFICERS ARE					
	Included					
The Memorandum of Insurance serves solely to list insurance policies, limits and dates of coverage. Any modifications here to are not authorized.						

MEMORANDUM OF INSURANCE		DATE 26-Oct-2015
<p>This Memorandum is issued as a matter of information only to authorized viewers for their internal use only and confers no rights upon any viewer of this Memorandum. This Memorandum does not amend, extend or alter the coverage described below. This Memorandum may only be copied, printed and distributed within an authorized viewer and may only be used and viewed by an authorized viewer for its internal use. Any other use, duplication or distribution of this Memorandum without the consent of Marsh is prohibited. "Authorized viewer" shall mean an entity or person which is authorized by the insured named herein to access this Memorandum via https://online.marsh.com/marshconnectpublic/marsh2/public/moi?client=154071580. The information contained herein is as of the date referred to above. Marsh shall be under no obligation to update such information.</p>		
PRODUCER Marsh USA Inc. dba Marsh USA Risk & Insurance Services ("Marsh")	INSURED Agilent Technologies, Inc. 5301 Stevens Creek Blvd. M/S 1A-IR, Santa Clara California 95051 United States	
ADDITIONAL INFORMATION		
<p>The Memorandum of Insurance serves solely to list insurance policies, limits and dates of coverage. Any modifications hereto are not authorized.</p>		

INSURANCE REQUIREMENTS - BIDS

All insurance requirements shall conform to Jefferson Parish Resolution No. 113646 or No. 113647. The contractor shall not commence work under this contract until he has obtained all insurance and complied with the requirements of the specifications and said Parish Resolutions. Except as otherwise provided by law, the Parish Attorney's Office with the concurrence of the Director of Risk Management is authorized to omit in whole or part the insurance requirements of this section in connection with contracts. Vendors inquiring about this shall submit his written request to the Purchasing Department prior to the due date of the bid. Contractor must deliver and maintain such insurances as provided; failure to do so shall be grounds for suspension, discontinuation or termination of the contract.

Successful bidder will be required to procure standard insurance policies evidencing Parish mandated insurance requirements indicated below. The current certificate of insurance must be submitted by low bidder within 10 days after bid opening to the Purchasing Department. Failure to comply will cause bid to be rejected.

1. WORKER'S COMPENSATION INSURANCE

As required by Louisiana State Statute, exception; Employer's Liability, Section B shall be \$1,000,000 per occurrence when Work is to be over water and involves maritime exposures to cover all employees not covered under the State Worker's Compensation Act, otherwise this limit shall be no less than \$500,000 per occurrence.

2. COMMERCIAL GENERAL LIABILITY

Shall provide limits not less than the following: \$1,000,000.00 Combined Single Limit per Occurrence for bodily injury and property damage.

3. COMPREHENSIVE AUTOMOBILE LIABILITY

Bodily injury liability \$1,000,000.00 each person; \$1,000,000.00 each occurrence.
Property Damage Liability \$1,000,000.00 each occurrence.

DEDUCTIBLES

No insurance required shall include a deductible not greater than \$10,000.00. The cost of the deductible shall be borne by the contractor.

NOTE: If the vendor requires a change in deductibles, the request must be submitted in writing to the Purchasing Department prior to the due date of the bid. Such request shall be reviewed by the Parish Attorney's Office.

UMBRELLA LIABILITY COVERAGE

An umbrella policy or excess may be used to meet minimum requirements.

CONSTRUCTION AND RENOVATION PROJECTS:

Unless otherwise specified in the bid, these additional insurance is required. Such insurance is due upon contract execution.

OWNER'S PROTECTIVE LIABILITY

To be for the same limits of liability for bodily injury and property damage liability established for commercial general liability.

BUILDER'S RISK INSURANCE

The contractor shall maintain Builder's Risk Insurance at his own expense to insure both the owner (Parish of Jefferson) and contractor as their interest may appear.

NOTE for CERTIFICATE HOLDER:

All insurance certificates shall list the certificate holder as follows:

"The Parish of Jefferson, its Districts, Departments and Agencies under the direction of the Parish President and the Parish Council." Additionally, the address on the Certificates should reflect the department which is letting the bid and reference the respective bid number.

Revised 2.10.2014

**Request for Taxpayer
Identification Number and Certification**

Give Form to the
requester. Do not
send to the IRS.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
AGILENT TECHNOLOGIES, INC. & SUBSIDIARIES

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification; check only one of the following seven boxes:
☐ Individual/sole proprietor or single-member LLC
☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶
☐ Other (see instructions) ▶
☒ C Corporation
☐ S Corporation
☐ Partnership
☐ Trust/estate

Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any) **5**
Exemption from FATCA reporting code (if any)
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)
5301 STEVENS CREEK BLVD

6 City, state, and ZIP code
SANTA CLARA, CA 95051

7 List account number(s) here (optional)

Requester's name and address (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number

or

Employer identification number

7	7		0	5	1	8	7	7	2
---	---	--	---	---	---	---	---	---	---

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign
Here

Signature of
U.S. person ▶

Keith A. Smith

Date ▶

1/22/15

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-I (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued).
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
- Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.



Bid Number 50-00116919

**A ONE-TIME PURCHASE AND INSTALLATION OF A GAS
CHOMATOGRAPH AND AUTOSAMPLER FOR THE JEFFERSON PARISH
DEPARTMENT OF WATER, WATER LAB**

BID DUE: July 7, 2016 / 2:00 PM

ATTENTION VENDORS!!!

**Please review all pages and respond accordingly, complying with all provisions
in the technical specifications and Jefferson Parish Instructions for Bidders and
General Terms and Conditions. All bids must be received in the Purchasing
Department by the bid due date and time.**

**Jefferson Parish Purchasing Department
200 Derbigny Street
General Government Building, Suite 4400
Gretna, LA 70053
Buyer: Melissa Ovalle
Buyer Email: movalle@jeffparish.net
Buyer Phone #: 504-364-2687**

Agilent 7890B GC Bid Specifications

Model/ option	Specification	Description	Justification
G3440B	Retention time performance	Retention time repeatability: < 0.008% or < 0.0008 min * Area repeatability < 1% RSD * * 2ng tetradecane, using 7890A, ALS, Agilent datasyssem	Precise retention time and area reproducibility are the basis for all qualitative and quantitative chromatographic measurements
G3440B	GC Configuration	Must support simultaneously: - two inlets - three detectors - four detector signals	Multiple inlets/detectors offer flexibility in configuration for a wide variety of analyses
G3440B	EPC Modules/ EPC Channels	Must be able to install up to six EPC modules can be installed, providing control of up to 16 channels of EPC	Allows maximum flexibility in configuring GC for a wide variety of applications.
G3440B	Inlet, Aux and PCM EPC Modes	Must provide, when used with capillary columns, four column flow control modes: constant pressure, ramped pressure (3 ramps), constant flow, or ramped flow (3 ramps). Column average linear velocity is calculated.	The ability to program the flow provides another means to speed up the analysis when limited by temperature. Allows guard column backflushing to begin during the run by programming the auxiliary flow.
G3440B	LAN	The LAN interface must allow real-time monitoring of the GC when it is connected with monitoring & diagnostic sSoftware, even when also connected to a data system	Enables simultaneous real-time monitoring of GC, even during operation
G3440B	Counters Software for GC	GC must provide software that monitors GC counters and provides graphic display. Also must provide a real-time notification via indicator/advisory when a counter limit has been reached.	Enables user to have access to a counters in a graphical manner with automatic notifications
G3440B	Set point control	Must provide set point control from the local keyboard or via a networked data system.	Stand-alone control allows use of GC with analog signal data analysis systems. Setpoints can be adjusted at the instrument if the networked system is not nearby.
G3440B	Automation control and clock time programming	Must provide automation control from the local keyboard or via a networked data system. Must provide clock-time programming initiated from the front panel to initiate events (on/off, method start, etc.) at a future date and time.	Local operation allows valved and/or ALS injections to be used. Sequences run from the keyboard allow automation when data analysis system does not provide it. Local clock time programming allows operations such as blank runs to be scheduled by day of the week. The same type of operations is also available from networked data system control.
G3440B	Run time deviation log	Must provide a run time deviation log created for each analysis	Ensures that all method parameters were achieved and maintained.
G3440B	Display of all GC set points at the GC or data system.	Must provide display of all GC and automatic sampler set points at the GC or data system via English or Chinese characters on GC display	Easy user interface
G3440B	Operating temperature range	Oven operating range must be from Ambient temperature +4 °C to 450 °C.	Wide temperature range necessary for flexibility in method development.
G3440B	Temperature set point resolution	Oven temperature set point resolution must be 0.1 °C.	Provides better support of faster methods using method translation.

G3440B	Oven ramps/plateaus	Oven must support 20 oven ramps with 21 plateaus. Negative ramps are allowed.	Multiple temperature ramps necessary for flexibility in method development.												
G3440B	Oven ramp rates	Maximum achievable Temperature ramp rates: 120 °C/min (120 V units are limited to 75°C/min)	Fast GC increases lab productivity. – fast cool down reduces cycle time without method modification												
G3440B	Fast oven ramp rates (single channel GC operation,	Must be able to achieve the following ramp rates for single channel GC operation: - high power (>200volts, >15 amps) and oven insert allowed): <table><tr><th>Temp Range (°C)</th><th>Ramp Rate (°C/min)</th></tr><tr><td>50 to 70</td><td>120</td></tr><tr><td>70 to 115</td><td>120</td></tr><tr><td>115 to 175</td><td>110</td></tr><tr><td>175 to 300</td><td>80</td></tr><tr><td>300 to 450</td><td>65</td></tr></table>	Temp Range (°C)	Ramp Rate (°C/min)	50 to 70	120	70 to 115	120	115 to 175	110	175 to 300	80	300 to 450	65	Allows for fast GC methods
Temp Range (°C)	Ramp Rate (°C/min)														
50 to 70	120														
70 to 115	120														
115 to 175	110														
175 to 300	80														
300 to 450	65														
G3440B	Oven cool down	Oven cool down (22 °C ambient) 450 to 50 °C in 4.0 min (3.5 min with oven insert accessory).	Fast cool down time allows for overall fast cycle time												
G3440B	Ambient temperature rejection	Oven must have ambient rejection: < 0.01 °C per 1 °C.	Reduces the influence of the ambient temperature on retention time repeatability.												
G3440B	Oven power safety	Oven power must turn-off automatically when the lid/door is opened.	User must be protected from high oven heat when door is opened.												
G3440B	Gas supply shutoff	An automatic carrier shutoff, if the inlet pressure drops significantly, must be built-in	Low pressure indicates that there is insufficient gas for the chromatographic run to be valid, protects against gas loss in case of leaks												
G3440B	Pneumatics	Pneumatics must be electronic and programmable.	Precise pneumatic control is a key component to retention time and area repeatability. Programmability allows automation using methods with different pressure and flow set points.												
G3440B	Pneumatics	Each EPC unit is optimized for its intended use with a specific inlet and detector option.	No unneeded parts to effect complexity and reliability. Components are chosen to optimize stability in the normal operating range of each specific inlet or detector. This leads to better retention time and area repeatability.												
G3440B	Inlet Pneumatics	Inlet must have Electronic pneumatic control of carrier, split and septum purge gases, including electronic ON/OFF	Electronic pressure control allows greater flexibility of operation than manual controls. Full method documentation. Programming of inlet pressure can minimize sample degradation and improve efficiency of sample transfer to the column.												
G3440B	Compensation for barometric pressure and ambient temperature changes is standard	Compensation for barometric pressure and ambient temperature changes must be standard.	Reduces the influence of environmental factors retention time repeatability. Methods remain stable when atmospheric pressure changes. Methods at sea level and high elevations give the same results.												
G3440B	Pressure setpoint precision and control	Pressure set points must be able to be adjusted by increments of 0.001 psi, with typical control ± 0.001 for the range 0.000 to 99.999 psi; 0.01 psi for the range 100.00 psi to 150.00 psi	Leads to more precise translation of methods and retention time locking precision. This is especially important for methods requiring low column head pressure.												

G3440B	Pressure/flow ramps	User must be able to set up to a maximum of three Pressure/flow ramps in addition to injecting at a different (pulsed) pressure	Constant flow or pressure provide consistent efficiency, but additional ramps can be used to decrease retention times after column temperature limit is reached or to elute unimportant late eluting peaks faster.
G3440B	Carrier and makeup gas settings	User must be able to select carrier and makeup gas types. Carrier types supported are He, H ₂ , N ₂ , and argon/methane. Makeup gas types available are detector specific	This allows column flow to be controlled with the user's preferred carrier gas. This is required because of the differences in the gases' viscosities
G3440B	Temperature coefficient drift	Electronic pneumatic control must have a temperature coefficient : <± 0.01 psi/°C, Drift: <± 0.1 psi/6 months.	Reduces the influence of environmental factors retention time and area repeatability.
G3440B	Flow sensors	Flow sensors must have specification for Accuracy: <± 5% depending on carrier gas, Repeatability: <± 0.35% of setpoint, normal temperature and pressure (NTP)* per °C for He or H ₂ ; <± 0.05 mL/min NTP per °C for N ₂ or Ar/CH ₄ .	Enables better instrument repeatability and instrument to instrument precision.
G3440B	Flow/pressure setpoints display/control	Flow/pressure setpoints via GC or Agilent ChemStations	Allows setpoints to be displayed/controlled via Agilent devices per user preference.
G3440B	Constant flow mode	Constant flow mode must be available	Flow decreases with increasing oven temperature if only constant pressure mode is available. This leads to increased retention times
G3440B	Mass Flow Sensors	Split/splitless, and PTV inlets must have mass flow sensors for the control of flow to inlet	Mass flow sensors provide best dynamic range of flow and pressure control. High flow rates are available even when the column pressure is low.
G3440B	S/SL and PTV inlets ratios set electronically	S/SL and PTV inlets must allow the split ratio to be set electronically Split flow and split ratio are calculated from total flow and calculated column and calibrated septum purge flows	Convenience of method setup, accuracy of split ratio
G3440B	Inlet modules Pressure sensors	Accuracy: <± 2% full scale, Repeatability: <± 0.05 psi, Temperature coefficient : <± 0.01 psi/°C, Drift: <± 0.1 psi/ 6 months.	Retention time repeatability and precision.
G3440B	Inlet modules Flow sensors	Accuracy: <± 5% depending on carrier gas, Repeatability: <± 0.35% of setpoint, normalized temperature and pressure (NTP)* per °C for He or H ₂ ; <± 0.05 mL/min NTP per °C for N ₂ or Ar/CH ₄ .	Retention time repeatability for packed column operation in PP inlet, split ratio stability and accuracy in S/SL inlet.
G3440B	Detector modules	Accuracy: <± 3 mL/min NTP or 7% of setpoint, Repeatability: <± 0.35% of setpoint *NTP = 25 °C and 1 atmosphere	Area repeatability because detector response is stable. Instrument to instrument detector reproducibility when flows can be set accurately.
G3440B	Number of inlets installed	Must be able to install up to two inlets	Provides flexibility in configurations for GC applications
G3440B	Inlets available	Must be able to install any of these inlets - Split/splitless capillary inlet (S/SL) - Purged packed injection port (PPIP) - Multimode inlet (MMI) - Temperature-programmable cool on-column (PCOC) - Programmable temperature vaporizer (PTV) - Volatiles inlet (VI)	A wide variety of inlets to suit the user's application
G3440B	Inlet pneumatics SSL	Inlet must have Electronic pneumatic control of carrier, split and septum purge	Electronic pressure control allows greater flexibility of operation than manual

		gases, including electronic ON/OFF	controls. Full method documentation. Programming of inlet pressure can minimize sample degradation and improve efficiency of sample transfer to the column. Choose the column to suit your sample.
G3440B	Capillary column id	Must be suitable for all capillary columns including DB-5.625 column, 30 m, 0.32 mm, 0.25 μ m	
G3440B	SSL		
G3440B	Split ratios allowed	Must allow split ratio setpoint up to 7,500:1	A wide range of available split ratios help avoid column overload.
G3440B	SSL		
G3440B	Modes	Must allow these modes and be easily accessible::	The right mode for every sample is easily selected.
	SSL	- split - splitless mode - Pressure-pulsed splitless mode.	Split mode allows the user to introduce the appropriate amount of sample on high resolution capillary columns for analysis (e.g., gasoline analysis). Splitless mode allows for more trace analysis
			Pressure-pulsed splitless mode can reduce the amount of time spent in the vaporizing inlet, improve early eluting peaks. Pulsed Split is also available.
G3440B	Maximum temperature	Maximum temperature: 400 °C.	High maximum temperature for flexibility in method development
	SSL		
G3440B	EPC Pressure Ranges	EPC available in two pressure ranges: - 0 to 100 psig (0 to 680 kPa) \geq 0.200 mm diameter - 0 to 150 psig for columns < 0.200 mm diameter.	Allows the pressure range to be matched to the working pressures required by the column and oven temperature. The smaller diameter columns require a higher maximum pressure for a given temperature. Wider bore columns require the precision at low pressure available when the pressure range is more limited. Agilent optimizes instead of compromises.
	SSL		
G3440B	Gas saver mode	Gas saver mode built in	Reduces gas consumption without compromising performance.
	SSL		(reduces split vent flow at a run-time programmable time, without affecting the column flow, the gas saver mode key will restore the original flow rate)
G3440B	Septum purge	Must have electronic septum purge flow	Septum purge helps eliminate "ghost" peaks. Electronic control allows user to set the flow for his septum of choice and the injection parameters required.
	SSL		Changing the split and septum flow without changing the column flow allows for changes in sample concentration without affecting retention times.
G3440B	Purge flow change	Split and septum purge flow can be changed without changing the column flow	A wide range for setting total flow enables the widest range of applications.
	SSL		
G3440B	Total flow range	Must be able to set total flow range: 0 to 200 mL/min N ₂ 0 to 1,250 mL/min H ₂ or He	
	SSL		
G3440B	Inlet maintenance	Inlet sealing system is built in standard with each S/SL inlet for quick, easy, injector liner changes in under 30 seconds.	Fast, easy inlet maintenance helps minimize instrument downtime
	SSL		
G3440B	Electronic pneumatics control and electronic on/off for all detector	Electronic pneumatics control and electronic on/off for all detector gases.	Electronic pressure control allows greater flexibility of operation than manual controls. Full method documentation. Setting detector pressure/flows can help optimize detector operation and sensitivity.

G3440B	gases Detector Electronic compensation	Detector EPC compensated for atmospheric pressure and temperature variation	Reduces the influence of environmental factors that affect detector performance. Methods and performance remain stable when atmospheric pressure changes. Improves area repeatability.
G3440B	Sensitivity ECD	Minimum detectable level: 4.5 fg/mL lindane	High sensitivity allows smaller amounts of analyte to be detected
G3440B	Linear Dynamic Range ECD	Proprietary signal linearization. Linear dynamic range: $> 5 \times 10^4$ with lindane	A high linear dynamic range allows a wider range of concentrations to be detected in one run. This reduces the number of reinjections necessary, leading to higher lab productivity. It is required for some regulated methods.
G3440B	Data rate ECD	Data acquisition rate: up to 50 Hz	High acquisition rate required for fast chromatography. Data rate fast enough for 100 msec wide (half height) peaks -
G3440B	Electron source ECD	Uses β^- emission of < 15 mCi ^{63}Ni as the electron source.	^{63}Ni is preferred source of β^- particles. The amount chosen has been optimized for detector performance and safety.
G3440B	Micro cell (anode) design ECD	Must be equipped with hidden anode and high velocity flows.	Minimizes contamination and optimizes sensitivity
G3440B	Maximum temperature ECD	400 °C maximum operating temperature	High temperature necessary to vaporize high boiling compounds
G3440B	EPC control ECD	Standard EPC makeup gas types: argon/5% methane or nitrogen; 0 to 150 mL/min	Electronic pressure control allows greater flexibility of operation than manual controls.
G3440B	EPC atmospheric pressure & temperature variation compensations	EPC atmospheric pressure & temperature variation compensations	Reduces the influence of environmental factors retention time repeatability. Methods remain stable when atmospheric pressure changes. Methods as sea level and high elevations give the same results.
G3440B	EPC Pressure control	Psig (gauge) and psia (absolute) pressure control	Both psig and psia pressure control provide stability in pressure
G3440B	Channels per PCM	2 channels	PCM can be located in either/ both inlet EPC positions, and in either/both auxiliary positions on the back of the 7890B GC
G3440B	Maximum	Maximum of 3 PCMs per GC	More auxiliary channels of EPC, flow or pressure, provide more flexibility and wider range of potential analyses.
G3440B	CFT- Diffusion bonding	Diffusion bonding	Forms a single flow plate
G3440B	CFT- Small profile	Small profile	For fast thermal response
G3440B	CFT- Projection welded connections	Projection welded connections	For leak-tight fittings
G3440B	CFT- Deactivation	Deactivation of all internal surfaces in the sample path	For sample path inertness
G3440B	Deans Switch Device	Pneumatic 2-dimensional heart-cutting	Deans switching provides additional selectivity using 2-dimensional GC analysis. Peaks of interest that may be

			<p>coeluting on one column are diverted to a separate column of different stationary phase. This technique can also reduce maintenance costs by having troublesome solvents or other components bypass detectors or columns.</p>
G3440B	Purged Effluent Splitters Devices	Pneumatic purged 2-way or 3-way splitter	<p>A 3-way purged effluent splitter sends column effluent to three detectors, even an MSD. More information can be obtained in a single run to help locate target peaks in unknowns. A 2-way purged effluent splitter version is also available.</p>
G3440B	Location of introduction of EPC	EPC can be introduced at any column or restrictor connection	Allows flexibility and versatility in developing methods utilizing capillary flow technology
G3440B	Configuration	Capillary Flow configuration of up to six columns/restrictors	Allows flexibility and versatility in developing methods utilizing capillary flow technology
G3440B	Backflush	GC firmware/software optimized for backflush operation.	Backflush Wizard Software simplifies backflush set-up and operation with the 7890B GC
G3440B	Communication interfaces	<ul style="list-style-type: none"> • LAN • Two analog output channels (1-mV, 1-V, and 10-V output available) as standard • Remote start/stop • Keyboard control of the Agilent Automatic Liquid Sampler (ALS) • Storage of 10 methods • Storage of five ALS sequences • Binary-coded decimal input for a stream selection valve • Serial port interface for Remote Advisor or optional Bar Code Reader 	LAN communication allows network analysis
G3440B	Regulatory for EMC and RFI	Designed and manufactured under a quality system registered to ISO 9001, Declaration of Conformity available.	Tested to conform to industry recognized standards for regulations for emission and susceptibility to electromagnetic interferences
G3440B	ISO 9001	<p>Four internal 24-volt connections (up to 150 mA)</p> <p>Two external 24-volt connections (up to 150 mA)</p> <p>Two on/off contact closures (48 V, 250 mA max)</p>	Designed under industry standard quality system.
G3440B	Connections/ contact closures	550 time events via data system. 50 time events via GC keyboard	Flexible capabilities connecting to external devices
G3440B	Timed Events	<p>Support for up to 8 valves:</p> <ul style="list-style-type: none"> -valves 1-4, 12 V DC 13 watt in a heated valve box - valves 5-6, 24 V DC 100 mA unheated, for low power valve applications - Valves 7-8, externally powered as a remote event from separate contact closure 	Large number of available timed events particularly useful for multi-dimensional chromatography
G3440B	Support for up to 8 valves	Independent heated zones, not	Flexible valves allow complex application. Control as part of sample run table

		including oven: six (two inlets, two detectors, and two auxiliary). Third detector as TCD can utilize any available zone from inlet or auxiliary zones.	provides method documentation and precision
G3440B	Heated zones	Maximum operating temperatures for auxiliary zones: 400 °C	Heated zones for inlet, detector and auxiliary zones
G3440B	Maximum operating temperatures for auxiliary zones		High temperature operation for analysis of high boiling sample components

DATE: 6/22/2016

INVITATION TO BID
THIS IS NOT AN ORDER

Page: 1

BID NO.: 50-00116919

JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETN, LA. 70054-0009
504-364-2678

BUYER: MOVALLE@jeffparish.net

BIDS WILL BE RECEIVED IN THE PURCHASING DEPARTMENT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETN, LA 70053 UNTIL 2:00 PM, 7/07/2016 AND PUBLICLY OPENED THEREAFTER.

LATE BIDS WILL NOT BE ACCEPTED

Unless submitting via online (see Page 3), each bid must be submitted in a sealed envelope bearing on the outside; the name of the Bidder, his address, and the name of the project for which the bid is submitted and the bid number.

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES SHALL RESULT IN BID REJECTION.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

THE FOLLOWING INSTRUCTIONS APPLY TO ALL BIDS

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law as well be in compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, applicable Jefferson Parish ethical standards and Jefferson Parish Resolution No. 113646 and/or Resolution No. 113647.

All vendors submitting bids must register as a Jefferson Parish vendor if not already yet registered. Bidders may be required to furnish current W-9 Forms and respective Tax Identification Numbers within 10 days after bid opening if such information is not on file or not up to date. Registration forms may be downloaded from www.purchasing.jeffparish.net and clicking on Vendor Information.

All quotations shall be based on F.O.B. Agency warehouse or job site, anywhere within the Parish as designated by the Purchasing Department. This provision does not apply to public works projects

JEFFERSON PARISH requires all products to be new (current) and all work must be performed according to standard practices for the project. Unless otherwise specified, no aftermarket parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least one (1) year guaranty, in writing, from the date of delivery and/or acceptance of the project. Any deviations or alterations from the specifications must be indicated and/or supporting documentation supplied with bid submission.

Bidders should submit all questions in writing and fax them to the Purchasing Department at (504) 364-2693 no later than FIVE (5) working days prior to bid opening. Bid numbers should be mentioned in all requests. Questions may also be emailed to the buyer for this bid at the email address listed above. If submitting online, vendors may send questions via the E-Procurement site no later than Five (5) working days prior to the bid opening.

If this bid requires a pre-bid conference (see Additional Requirements section), bidders are advised that such conference will be held to allow bidders the opportunity to identify any discrepancies in the bid specifications and seek further clarification regarding instructions. The Purchasing Department will issue a written response to bidders' questions in the form of an Addendum. Please note that all official communication will be expressed in the form of an addendum.

All formal Addenda require written acknowledgement on the bid form by the bidder. Failure to acknowledge an Addendum on the bid form shall cause the bid to be rejected. JEFFERSON PARISH reserves the right to award bid to next lowest responsive and responsible bidder in this event.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal. JEFFERSON PARISH WILL ACCEPT ONE BID ONLY FROM EACH VENDOR. Items bid must meet specifications.

Visit our website at [HTTP://PURCHASING.JEFFPARISH.NET](http://PURCHASING.JEFFPARISH.NET)

JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection. Bidders are required to complete, sign and return the bid form and/or complete and return the associated line item pricing forms as indicated. Vendors must not alter the bid forms. Doing so will cause the bid to be rejected.

If the bid exceeds \$30,000.00 and the company is duly authorized to do business in the state of Louisiana, a corporate resolution must be submitted with the bid or the person signing the bid documents must be listed on the Louisiana Secretary of State's website as an officer of the corporation, unless bidder has otherwise complied with LSA-R.S. 38:2212(B)(5). If the bid is in excess of \$30,000 and bidder is registered out of the state of Louisiana, a corporate resolution must be submitted with the bid, unless bidder has otherwise complied with LSA-R.S. 38:2212(B)(5). Failure to comply will cause bid to be rejected; the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event. Bids submitted by Owner or Sole Proprietorships must include certification that he or she owns the entity for which the bid is signed. Sole proprietors submitting bids for public works projects shall within 10 days after bid opening submit sole proprietorship certification.

NOTE: A sample corporate resolution can be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document. A sample certification of sole proprietorship can also be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

A. AWARD OF CONTRACT: JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIVE and RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE. IN THE EVENT OF SPLIT AWARD, THE PURCHASING DEPARTMENT MAY CONTACT VENDORS TO REQUEST REQUIRED AFFIDAVITS. THOSE VENDORS WILL HAVE 10 DAYS FROM THE DATE OF NOTICE TO SUBMIT COMPLETE, SIGNED AND NOTARIZED AFFIDAVITS IN ORIGINAL FORMATS.

All bid prices shall remain valid for 45 days. Jefferson Parish and the lowest responsive and responsible bidder(s) by mutual written consent may mutually agree to extend the deadline for award by one (1) or more extensions of thirty (30) calendar days.

Preference is hereby given to materials, supplies, and provisions produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the state. "LSA-R.S.38:2251-2261"

B. USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

C. CANCELLATION OF CONTRACT: JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at anytime and for any reason by issuing a THIRTY (30) day written notice to the contractor.

For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.

D. PRICES: Jefferson Parish is exempt from paying sales tax under LSA-R.S. 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit of measure specified and unless otherwise specified, shall be exclusive of state and Parish taxes. The price quoted for work shall be stated in figures. In the event there is a difference in unit prices and totals, the unit price shall prevail.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A17.1-1961).

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

Advertised bids will be tabulated and a copy of the tabulation will be forwarded to each responding bidder.

IN ACCORDANCE WITH STATE REGULATIONS JEFFERSON PARISH OFFERS ELECTRONIC PROCUREMENT TO ALL VENDORS

This electronic procurement system allows vendors the convenience of reviewing and submitting bids online. This is a secure site and authorized personnel have limited read access only. Bidders are encouraged to submit electronically using this free service; while the website accepts various file types, one single PDF file containing all appropriate and required bid documents is preferred. Bidders submitting uploaded images of bid responses are solely responsible for clarity. If uploaded images/documents are not legible, then bidder's submission will be rejected. Please note all requirements contained in this bid package for electronic bid submission.

Please visit the Purchasing Department webpage at <http://purchasing.jeffparish.net> to register and review Jefferson Parish solicitations.

The general specifications for construction projects and the purchase of materials, services and/or supplies are those adopted by the JEFFERSON PARISH Council by Resolution No. 113646 or 113647 dated 12/09/09. The general conditions adopted by this resolution shall be considered as much a part of this document as if they were written wholly herein. A copy may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053. You may also obtain a copy by visiting the Purchasing Department webpage at <http://purchasing.jeffparish.net> and clicking on Online Forms.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

10, 13, 15

1. All bidders must attend the MANDATORY pre-bid conference and will be required to sign in and out as evidence of attendance. In accordance with LSA R.S. 38:2212(l), all prospective bidders shall be present at the beginning of the MANDATORY pre-bid conference and shall remain in attendance for the duration of the conference. Any prospective bidder who fails to attend the conference or remain for the duration shall be prohibited from submitting a bid for the project.
2. Attendance to this pre-bid conference is optional. However, failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. Furthermore, failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification with no additional cost to the owner.
3. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project. Contractor must also hold any and all applicable Federal and State licenses. Contractor shall be responsible for the payment of these permits and shall obtain them prior to the start of the project.
4. A LA State Contractor's License will be required in accordance with LSA R.S. 37-2150 et. seq. and such license number will be shown on the outside of the bid envelope. Failure to comply will cause the bid to be rejected. Additionally if submitting the bid electronically, then the license number must be entered in the appropriate field in the Electronic Procurement system. Failure to comply will cause the bid to be rejected.
5. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
6. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

7. **PUBLIC WORKS BIDS:** All awards for public works in excess of \$5,000.00 will be reduced to a formal contract which shall be recorded at the contractor's expense with the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. A price list of recordation costs may be obtained from the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 will require both a performance and a payment bond. Unless otherwise stated in the bid specifications, the performance bond requirements shall be 100% of the contract price. Unless otherwise state in the bid specifications, the payment bond requirements shall be 100% of the contract price. Both bonds shall be supplied at the signing of the contract.
8. **NON-PUBLIC WORKS BIDS:** A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The performance bond shall be supplied at the signing of the contract.
9. **NON-PUBLIC WORKS BIDS:** A payment bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The payment bond shall be supplied at the signing of the contract.
10. Unless otherwise stated in the bid specifications, the successful bidder will be required to procure standard insurance policies evidencing Parish-mandated insurance requirements as indicated on the attached sheet. The current certificate of insurance must be submitted by low bidder within 10 days after bid opening to the Purchasing Department. Failure to comply will cause bid to be rejected. JEFFERSON PARISH reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
11. A bid bond will be required with bid submission in the amount of 5% of the total bid, unless otherwise stated in the bid specifications. Acceptable forms shall be limited to cashier's check, certified check, or surety bid bond. All sureties must be in original format (no copies) If submitting a bid online, vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.
12. This is a requirements contract to be provided on an as needed basis. JEFFERSON PARISH makes no representations on warranties with regard to minimum guaranteed quantities unless otherwise stated in the bid specifications.
13. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be rejected if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.
14. **PUBLIC WORKS BIDS - Completed, Signed and Properly Notarized Affidavits (in Original Format) required;** Non-Conviction Affidavit, Non-Collusion Affidavit, Campaign Contribution Affidavit and E-Verify Affidavit must be completed, signed, notarized and submitted by low bidder within 10 days after bid opening to the Purchasing Department on all solicitations for construction, alteration or demolition of public building or project, including but not limited to requirements found in LSA-RS 38:2212.9; LSA-RS 38:2212.10; LSA-RS 38:2224; Code of Ordinances, Jefferson Parish, Louisiana, Sec 2-923.1. Failure to comply will cause bid to be rejected; the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event. For the convenience of vendors, all affidavits have been combined into one form entitled PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format for the bid to be considered responsive.
15. **NON PUBLIC WORK BIDS - Completed, Signed and Properly Notarized Affidavits (in Original Format) required;** Non-Collusion Affidavit, and Campaign Contribution Affidavit must be completed, signed, notarized and submitted by low bidder within 10 days after bid opening to the Purchasing Department. See LSA-RS 38:2212.10; LSA-RS 38:2224; Code of Ordinances, Jefferson Parish, Louisiana, Sec 2-923.1 Failure to comply will cause bid to be rejected; the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event. For the convenience of vendors, all affidavits have been combined into one form entitled NON PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format for the bid to be considered responsive.
16. The ensuing contract for this bid solicitation may be eligible for FEMA reimbursement and/or Federal funding reimbursement.. As such, the referenced attachment will be applicable accordingly and shall be considered a part of the bid documents. All applicable certifications must be duly completed, signed and submitted within 10 days of bid opening. Failure to submit applicable certifications within 10 days of bid opening will result in bid rejection.
17. For this project, the Contractor shall not pay any state or local sales or use taxes on materials and equipment which are affixed and made part of the immovable property of the project or which permanently incorporated in the project (hereinafter referred to as "applicable materials and equipment"). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of Jefferson Parish (Owner), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owned on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session – Louisiana Revised Statute 47:301(8)(c). Owner will furnish contractor a certificate form which certifies that Owner is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment

It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission: and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to Jefferson Parish Code of Ordinances Section 2-155.10(19). By submitting a bid, vendor acknowledges this and will abide by all provisions of the referenced Jefferson Parish Code of Ordinances.



Agilent Technologies

Ms. Kristen Ragan
Chief Chemist
Water Quality Lab
Jefferson Parish
Water Quality
3600 Jefferson Hwy Bldg E
JEFFERSON LA 70121-1728

Quotation

Quote No.	Create Date	Delivery Time	Page
2059418	05/23/2016	7 Weeks	1 of 4
Contact	Phone no.	Valid to	
Kevin Fogg	972-699-2512	07/22/2016	
To place an order: Call 1-800-227-9770 Option 1			
For Instruments Fax : 302-633-8953			
Email : LSCAinstrumentsales@agilent.com			
For Consumables Fax : 302-633-8901			
Email : CAG_sales-NA@agilent.com			
For Genomics Fax : 512-321-3128			
Email : orders@agilent.com			
For additional instructions, see last page			

JEFFERSON PARISH WATER QUALITY LAB 50-00116919 07JULY2016

Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
G3440B Agilent 7890B Series GC Custom. includes LAN interface, 7693 interface ,20-ramp oven programming, 6 heated zones, 2 analog out, keyboard and display pressure setpoints to 0.001psi (0-99 psi) With the following configuration: Ship-to Country : USA Country of Origin : China Capillary S/SI inlet with EPC Micro Electron Capture Detector with EPC Factory plumbing For quick installation Oven exhaust deflector Installation (44K) Familiarization at Installation (44L)	1.000 EA	28,851.00 USD	5,770.20-	23,080.80
Special discount of 20.00 % is applied. A General License Registration Card for certification has been included with this quotation. In order to comply with the NRC state agency U.S. Customers and Puerto Rico must have this certification on file before the electron capture detector (ECD) will be sold or shipped. Prior to order entry this card must be forwarded with your purchase order. Please complete the information and the end user's name, title and telephone who will be responsible for the ECD. To expedite matters, fax this card to 302-633-8953.				
G4513A 7693A Autoinjector Includes transfer turret, 16-sample turret, mounting post, parking post for GC. 10ul syringe, and solvent bottles. With the following configuration: Ship-to Country : USA	1.000 EA	7,822.00 USD	1,564.40-	6,257.60



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Quote No.	Create Date	Delivery Time	Page
2059418	05/23/2016	7 Weeks	2 of 4
Contact	Phone no.	Valid to	
Kevin Fogg	972-699-2512	07/22/2016	
To place an order: Call 1-800-227-9770 Option 1 For Instruments Fax : 302-633-8953 Email : LSCAinstrumentsales@agilent.com For Consumables Fax : 302-633-8901 Email : CAG_sales-NA@agilent.com For Genomics Fax : 512-321-3128			

Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
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Installation (44K)
Familiarization at Installation (44L)

Special discount of 20.00 % is applied.

G4514A	1.000 EA	9,198.00 USD	1,839.60-	7,358.40
7693 Tray, 150 vial includes three removable 50-vial racks and GC mounting bracket.				

With the following configuration:
Ship-to Country : USA
Installation (44K)
Familiarization at Installation (44L)

Special discount of 20.00 % is applied.

123-5631	1.000 EA	560.00 USD	112.00-	448.00
DB-5.625 30m, 0.32mm, 0.25um				

Special discount of 20.00 % is applied.

Gross Amount	:	\$	46,431.00
Total Discount	:	\$	9,286.20
Net Amount	:	\$	37,144.80

Total	:	\$	37,144.80
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TO PLACE AN ORDER, Agilent offers several options:

- 1) Visit <http://www.agilent.com/chem/supplies> to place online orders using a purchase order or credit card.
- 2) Call 1-800-227-9770 (option 1) any weekday between 8am and 8 pm Eastern time in the U.S., Canada & Puerto Rico.
- 3) To place an order for Consumables, please fax the order to 302-633-8901.
To place an instrument and/or software order, please fax the order to 302-633-8953.
To place an order for Genomics, please fax the order to 512-321-3128, or email to orders@agilent.com
- 4) Or you can mail your order to:
Agilent Technologies
North American Customer Contact Center
2850 Centerville Road BU3-2
Wilmington, DE 19808-1610

To place an order, the following information is required:

- Purchase order number or credit card, delivery date, ship to, invoice to, end user, and quote number.
- GSA customers please provide GSA contract #.

EXCLUSIVE OFFERS FOR NEW INSTRUMENT CUSTOMERS, go to www.agilent.com/chem/exclusiveoffers

TO CHECK THE STATUS OF AN ORDER:

- 1) Visit <http://www.agilent.com/chem/supplies> to check the status of your order.
- 2) Call 1-800-227-9770 (option 1) any weekday between 8 am and 8 pm Eastern time, in the U.S., Canada & Puerto Rico. You will need to know the purchase order or credit card number the order was placed on.

FINANCING AND LEASING - A wide range of options are available. For more information or to discuss how monthly payments could suit your operational or budgetary requirements, contact your Agilent Account Manager.

TERMS AND CONDITIONS:

- Pricing: Web prices are provided only for the U.S. in U.S.dollars. All phone prices are in local currency and for end use. Applicable local taxes are applied.
 - All Sales Tax is subject to change at the time of order.
 - Shipping and Handling Charges: Orders with a value less than \$4000 or those requiring special services such as overnight delivery may be subject to additional shipping & handling fees. Some of these charges may be avoided by ordering via the Web
 - Payment Terms: Net 30 days from invoice date, subject to credit approval.
 - * Quotation Validity: This quotation is valid for 60 days unless otherwise indicated.
 - * Warranty period for instrumentation is 1 year. The Warranty period for columns and consumables is 90 days.
- Visit www.agilent.com/chem
- For Training course information and registration including e-Seminars, select [Education](#).
 - For Literature, Application notes, and other information, select [Library](#).
 - For Online Technical Support including the Technical Support Assistant and Frequently Asked Questions, select [Technical Support](#).

It is Agilent Technologies intent to ship product at the earliest available date unless specified otherwise.



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Quotation

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The sale of standard Products and Services referenced in this quotation is subject to the then current version of Agilent's Terms of Sale, and any LSCA Supplemental Terms or other applicable terms referenced herein. If any Products or Services are manufactured, configured or adapted to meet Customer's requirements, the sale of all Products and Services referenced in this quotation is subject to the then current version of Agilent's Terms of Sale for Custom Products and any LSCA Supplemental Terms or other applicable terms referenced herein. A copy of Agilent's Terms of Sale, Agilent's Terms of Sale for Custom Products and the LSCA Supplemental Terms is either attached or has been previously provided to you. Please contact us if you have not received a copy or require an additional copy. If you have a separate agreement in effect with Agilent covering the sale of Products and Services referenced in this quotation, the terms of that agreement will apply to those Products and Services. Agilent expressly objects to any different or additional terms in your purchase/sales order documentation, unless agreed to in writing by Agilent. Product and Service availability dates are estimated at the time of the quotation. Actual delivery dates or delivery windows will be specified at the time Agilent acknowledges and accepts your purchase order. The above conditions shall apply to the fullest extent permitted by the law. You may have other statutory or legal rights available. Commodities, technology or software exported from the United States of America ("U.S.") or from other exporting countries will be subject to the U.S. Export Administration Regulations and all exporting countries' export laws and regulations. Diversion contrary to U.S. law and the applicable export laws and regulations is prohibited.



CUSTOMER ECD REGULATORY INFORMATION

Mandatory U.S. Nuclear Regulatory Commission regulations controlling general license Electron Capture Detectors (ECDs) are posted at the NRC 10 CFR web site (<http://www.nrc.gov/reading-rm/doc-collections/cfr/>). Regulations that control the use of your ECD are 10 CFR:

- 20.2201 Reports of theft or loss of licensed material
- 20.2202 Notification of incidents
- 30.51 Records
- 31.2 Terms and conditions
- 31.5 Certain detecting, measuring, gauging, or controlling devices and certain devices for producing light or an ionized atmosphere

. PLEASE NOTE! These regulations, and in particular section 31.5, provide critical control and reporting requirements that must be strictly adhered to. Failure to do so can lead to serious regulatory agency actions

Contact the Agilent Technologies, Inc. Little Falls Site RSO at 302-633-8262 if you do not have internet access for a hard copy.

The intended End User must certify on the following "General License Registration Form" that he or she will adhere to these regulations before a sales order can be generated. This form is not a license but a tracking tool enabling Agilent Technologies, Inc. to meet its' reporting requirements. General Licensees residing in an Agreement State must understand that their ECDs are regulated by their state radiation agency. If you reside in an Agreement State, please contact your state radiation agency to determine any differences between state and federal requirements. Agreement State addresses and phone numbers are listed in the NRC's web site (search "Agreement States")

The following services for ECDs can only be provided by a Specific Licensee:

- Accessing the radioactive source.
- Refurbishing the ECD.
- Transferring ECDs to other General Licensees, except as stipulated in Section 31.5 (c) (9) (enclosed)
- Exporting ECDs, except as stipulated in Section 31.5 (c) (7)

Furthermore, ECDs may only be disposed of through an authorized Licensee. ECDs must be removed from other instruments and disposed of separately. It is not necessary to utilize Agilent Technologies, Inc. for your ECD disposal but the service you do choose must have the specific authorization to handle devices containing Nickel 63. The cost of disposal through Agilent Technologies, Inc. is \$250.00 (reference product number R1629A) as of 1/26/01 but will change as necessary. **Warning: NRC's policy is to issue high civil penalties for improper disposal**

Other important safety information will be provided or referenced in the operator's manual entitled "Information For General Licensees" which will be shipped with the ECD.

GENERAL LICENSE REGISTRATION FORM

Note: For U.S. customers, Agilent Technologies, Inc. must have this certification on file before the Electron Capture Detector (ECD) will be sold or shipped. Please read and complete the information below, sign where indicated, and return as instructed by your Agilent representative (alternate numbers provided below).

Please note that the person designated as the End User must be the person identified by the General Licensee as having responsibility for having knowledge of the appropriate regulations and requirements and having the authority for taking required actions to comply with appropriate regulations and requirements as defined in NRC Regulations 10 CFR Section 31.5 (c) (12) (enclosed).

The undersigned End User hereby certifies that he/she will adhere to the requirements of NRC Regulations 10 CFR 20.2201, 20.2202, 30.51, 31.2, and 31.5 as referenced above. The undersigned also accepts responsibility for the operation and maintenance of the ECD in a safe manner lying beyond the manufacturer's control.

ECD Purchased:

7890A Micro ECD

_____ Part numbers G2397AD, G2397-60610, G3440A Option 231

7890B Micro ECD

_____ Part numbers G2397AD, G2397-60610, G3440B Option 231 G3440B Option 232

6890 Micro - ECD

_____ Part numbers G2397A, G2397-60510, G1530N Option 231, or G1540N Option 231

6850 Series II Micro-ECD

_____ Part numbers G2397AB, G2630B Option 231

7820A Micro-ECD

_____ Part Number G2397AE, G2397-65550, G2397-60620, G4350A Option 231

Please type or print legibly. Shaded areas are mandatory customer information that must be provided by Agilent to the U.S. Nuclear Regulatory Commission. Your order may be delayed if information is not provided or is not legible.

Customer Purchase Order Number: _____ Date Quotation Received: _____

End User's Name: (Print) _____ (Signature) _____

End User's Title: _____ Telephone Number: _____

Company Name (No abbreviations please): _____

Address (No P.O. Boxes): _____

City: _____ State: _____ Zip Code: _____

Agilent Only: Sales Order Number: _____

Return your completed form to your Agilent Sales Representative.

P/N: G2397-90000

Document Owner: David S. Bennett (RSO)

Rev. F

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[http://sharedoc.collaboration.agilent.com/sites/EHS/SD/KP/Business Management \(Quality-EH-S\)/033801.docx](http://sharedoc.collaboration.agilent.com/sites/EHS/SD/KP/Business%20Management%20(Quality-EH-S)/033801.docx)

Answers to Frequently Asked Questions About General License ECDs

What is a General License?

Unfortunately, there is much confusion over the term "General License" because no "license" or document is issued to the recipient of the General License (GL) device. The NRC grants permission to purchase certain low hazard radioactive products without the need to go through an expensive and time-consuming licensure process. The recipient of the device is granted "general license" (more accurately, general permission) to acquire, receive, possess, use, or transfer the device (all described on the first page of 10 CFR 31.5). It's a great benefit in the U.S. but the recipient of the GL device must comply with the regulations noted on the first page of the document entitled Customer ECD Regulatory Information provided by Agilent at the time of the sale. Agilent has U.S. Nuclear Regulatory Commission materials licenses to manufacture and distribute these General License devices, but these licenses do not cover our customers.

Why do I have to fill out and return a General License Registration Form before I can get my ECD?

The U.S. NRC requires manufacturers of Generally Licensed devices to provide regulatory information to potential customers prior to shipment so the customer can be made aware of their regulatory requirements under the General License provisions outlined in the NRC regulation 10 CFR 31.5 before they commit themselves to purchase generally licensed devices. The completed General License Registration Form (GLRF) proves for our records that the intended End User (the person with regulatory responsibility for the ECD) has been made aware of these regulations and agrees to comply with them. Once we have the completed form returned, we can ship the device. This process serves to inform the customer of their requirements under the regulations governing Generally Licensed devices as well as to prove to the NRC that Agilent Technologies, Inc. is in compliance with our regulatory and licensure requirements.

Does the customer buy an ECD under Agilent's General License?

No. As stated above, Agilent has a material license authorizing the company to distribute General Licensed devices to those customers covered under 10 CFR 31.5 (found at the NRC website: <http://www.nrc.gov/reading-rm/doc-collections/cfr/part031/part031-0005.html>). The customer is granted General License to acquire receive, possess, use or transfer the device in accordance with provisions of 10 CFR 31.5.

Can a customer with a Specific License manage General License ECDs under their Specific License?

Yes. However, the customer will typically have to manage their General License ECDs in accordance with the NRC or Agreement State agency's General License regulations and their Specific License ECDs in accordance with the terms of their Specific License. We say typically because the issuing agency may permit the handling of the GL device under the customer's material license. It's recommended that the customer contact their issuing agency for the agency's interpretation.

Should a customer purchase a General License ECD and include it under their Specific License?

This is not recommended. By nature of the General License provisions, customers are not required to be "licensed" by the NRC or Agreement State agency in order to purchase General License devices. Again, if the customer has a Specific License, they will typically have to maintain the General License separately (under the NRC or Agreement State General License regulations) from the Specific

License requirements.

What if the customer has identified a General License model number in the scope of their Specific License?

A customer should not list General License model numbers in a Specific License as the ECD would have to be handled under the terms of both the customer's Specific License and the NRC or Agreement State General License regulations. The customer is strongly encouraged to contact the Specific License issuing authority for direction in points of conflict between the terms of the Specific License and General License regulations (e.g., restriction of movement on General License devices vs. Specific Licenses allowing for movement within the scope of the license). It is recommended that the customer consider amending their Specific License to eliminate the General License model from their Specific License.

Why can't Agilent Technologies, Inc. accept a customer's specific (or Materials) license?

Customers frequently manage General License ECDs under Specific (or Materials) Licenses and will substitute a copy of their license in lieu of completing and returning a copy of the General License Registration Form. We cannot accept these as a substitute for the GLR Form for the following reasons:

- 1) As stated above, by nature of the General License provisions, customers are not required to be "licensed" by the NRC or Agreement State agency in order to purchase a General License device.
- 2) The General Licensee is required to comply with NRC or Agreement State regulations whereas the Specific Licensee is required to comply with the statements and requirements posted on their license. The differences between regulation and license requirements may differ significantly depending on the situation of the Specific Licensee.
- 3) The NRC requires distributors of General License devices to provide them and Agreement States with the actual location (by address and End User) of the device. Specific licensees can move their ECDs anywhere within the scope of their license, which, in say a university with a multi facility campus, could be any of dozens of buildings.
- 4) The General License regulations require the assigning of an individual (identified as the End User) who will have direct control over the movement of each ECD. The specific licensee identifies a designated RSO who is expected to meet rigorous training requirements and bear responsibilities that are far beyond the scope of the General License End User.

Can we accept a General License Registration Form in lieu of a customer's Specific License when they order a Specific License ECD?

No. This is so because:

- 1) The NRC mandates that we sell our ECDs only to "licensed" customers, and we cannot verify such without a copy of the customer's license.
- 2) In order to verify that the customer is licensed, we must examine license expiration dates, maximum amounts of Ni-63 allowed under the license, and that the ECD is being shipped to a location within the scope of the customer's license. We simply can't verify these from the information provided in the General License Registration Form.

What if the customer claims exemption from General License Registration?

Refer to the ECD procedure GCECD068 maintained in Order Processing, Field Repair, and ECD Lab notebooks.

Basically:

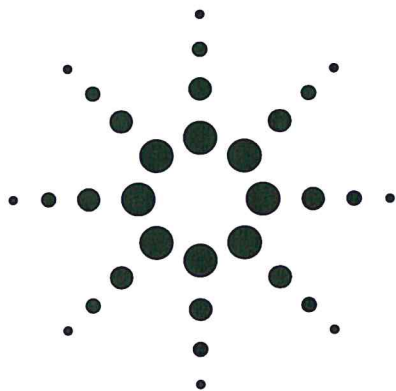
1) Assure the customer that we are not requiring them to file for a license and that the General License Registration Form is only a tracking device for our customer.

2) Inform the customer that we are required to provide the following information to the Nuclear Regulatory Commission and Agreement States for the transfer of the device to their location:

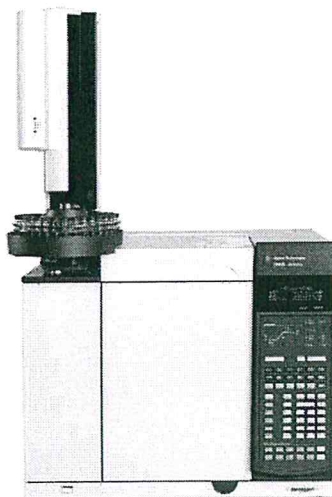
- End User's name*, title, and telephone number
- Exact street location that the device will be used

* The person identified by the General Licensee as having responsibility for having knowledge of the appropriate regulations and requirements and having the authority for taking required actions to comply with appropriate regulations and requirements as defined in NRC Regulation 10 CFR Section 31.5 (c) (12)

Please call the RSO at 302-633-8262 if there are any further questions.



Agilent 7890B Gas Chromatograph Data Sheet



Chromatographic Performance*

- Retention time repeatability
 $< 0.008\%$ or < 0.0008 min
- Area repeatability $< 1\%$ RSD

The Agilent 7890B is a state-of-the-art gas chromatograph that provides superior performance for all applications. Key to its performance is the use of advanced electronic pneumatic control (EPC) modules and high performance GC oven temperature control. Each EPC unit is optimized for its intended use with a specific inlet and detector option.

GC oven temperature control of the 7890B oven allows for fast and precise temperature ramping. Overall thermal performance provides optimal chromatography including peak symmetry, retention time repeatability, and retention index accuracy.

The combination of precise pneumatic and temperature control leads to extremely precise retention time reproducibility, which is the basis for all chromatographic measurement.

Agilent's proprietary Capillary Flow Technology provides a new dimension in chromatography with reliable, leak-free, in-oven capillary connections that stand up to repeated GC oven cycling over time. The 7890B GC has enhanced firmware to extend Capillary Flow capabilities and enhanced datasystem software to simplify set-up and operation of backflush. Programmable Eco-friendly Sleep Mode reduces power and gas consumption during periods of inactivity, while Wake Mode readies the system for high-throughput operation.

Other new tools and popular calculators such as Method Translator, Vapor Volume Calculator, Pressure Flow Calculator, and Solvent Vent Calculator

make it easier to analyze complex matrices and unknowns, and provide gains in productivity and data integrity for routine analyses via 2-dimensional heart cutting, detector splitting, and column backflushing. These tools are integrated within the Agilent Data Systems and calculated values are automatically transferred to the method editor.

The 7890B GC has advanced built-in capabilities to monitor system resources (counters, electronic logs and diagnostics). Now with integrated early maintenance feedback which track either number of injections or time of use allow for planned maintenance to eliminate unnecessary downtime. Agilent GC systems are known for their reliability, ruggedness, and long life. The Agilent 10-year use guarantee provides greater assurance for a low-cost of ownership throughout the GC's life.

*Using 7890B with EPC (splitless), ALS and Agilent Data System for analysis of tetradecane (2 ng to the column). Results may vary with other samples and conditions.



Agilent Technologies

System Capabilities

- Supports simultaneously:
 - Two inlets
 - Three detectors (third detector as TCD or ECD)
 - Four detector signals
- State-of-the-art detector electronics and the full-range digital data path enable peaks to be quantified over the entire concentration range of the detector (10^7 for the FID) in a single run.
- Full EPC is available for all inlets and detectors. Control range and resolution are optimized for the specific inlet or detector module.
- Up to six EPC modules can be installed, providing control of up to 16 channels of EPC.
- Pressure setpoint and control precision to 0.001 psi provides more retention time locking precision for low-pressure applications.
- EPC with capillary columns provides four column flow control modes: constant pressure, ramped pressure (3 ramps), constant flow, or ramped flow (3 ramps). Column average linear velocity is calculated.
- Atmospheric pressure and temperature compensation is standard, so results do not change, even when the laboratory environment does.
- Low Thermal Mass (LTM) Series II system can be added to achieve fastest cycle times via rapid LTM capillary column module heating and cooling.

- Serial port interface for Remote Advisor or Optional Bar Code Reader.
- One-button access to maintenance and service modes from the keyboard
- Preprogrammed leak tests
- Automatic Liquid Sampling is fully integrated into mainframe control.
- Setpoint and automation control can be done from the local keyboard or via a networked data system. Clock-time programming can be initiated from the front panel to initiate events (on/off, method start, etc.) at a future date and time.
- A run time deviation log is created for each analysis to ensure that all method parameters were achieved and maintained.
- A full array of traditional gas sampling and column switching valves are available
- 550 timed events
- Display of all GC and ALS setpoints at the GC or data system.
- Context-sensitive online help

Column Oven

- Dimensions: 28 × 31 × 16 cm. Accommodates up to two 105 m × 0.530 mm id capillary columns or two 10-ft glass packed columns (9 in. coil diameter, 1/4 in. od), or two 20-ft stainless steel packed columns (1/8 in. od).
- Operating temperature range suitable for all columns and chromatographic separations. Ambient

temperature +4 °C to 450 °C.

- With LN₂ cryogenic cooling: -80 to 450 °C.
- With CO₂ cryogenic cooling: -40 to 450 °C.
- Temperature setpoint resolution: 0.1 °C.
- Supports 20 oven ramps with 21 plateaus. Negative ramps are allowed.
- Maximum achievable temperature ramp rate: 120 °C/min (120 V units are limited to 75 °C/min, see Table 1).
- Maximum run time: 999.99 min (16.7 h).
- Oven cool down (22 °C ambient) 450 to 50 °C in 4.0 min (3.5 min with oven insert accessory).
- Ambient rejection: < 0.01 °C per 1 °C.

Electronic Pneumatics Control (EPC)

- Compensation for barometric pressure and ambient temperature changes is standard.
- Pressure has typical control of ±0.001 psi for the range of 0 to 150 psi. Pressure setpoints may be adjusted in increments of 0.001 for the range 0.000 to 99.999 psi; 0.01 psi for the range 100.00 to 150.00 psi.
- User may select pressure units as psi, kPa, or bar.
- Pressure/flow ramps: Three maximum.
- Carrier and makeup gas settings selectable for He, H₂, N₂, and argon/methane.
- Flow or pressure setpoints for each inlet or detector parameter with both Agilent 7890B and Agilent ChemStations.

Table 1. Typical 7890B GC Oven Ramp Rates

Temperature range (°C)	120 V Oven* rates (°C/min)	Fast ramp rates** (°C/min)	
		Dual-Channel	Single-Channel***
50 to 70	75	120	120
70 to 115	45	95	120
115 to 175	40	65	110
175 to 300	30	45	80
300 to 450	20	35	65

* Results obtained with line voltage maintained at 120V

** Fast ramp rates require power > 200 volts at > 15 Amps.

***Requires G2646-60500 oven insert accessory.

- Constant flow mode is available when capillary column dimensions are entered into the 7890B.
- Split/splitless, Multimode, and PTV inlets have flow sensors for the control of split ratio.
- Inlet modules
Pressure sensors: Accuracy: $< \pm 2\%$ full scale, Repeatability: $< \pm 0.05$ psi, Temperature coefficient: $< \pm 0.01$ psi/°C, Drift: $< \pm 0.1$ psi/6 months.
- Flow sensors: Accuracy: $< \pm 5\%$ depending on carrier gas, Repeatability: $< \pm 0.35\%$ of setpoint, Temperature Coefficient $< \pm 0.20$ mL/min (NTP)* per °C for He or H₂; $< \pm 0.05$ mL/min NTP per °C for N₂ or Ar/CH₄.
- Detector modules:
Accuracy: $< \pm 3$ mL/min NTP or 7% of setpoint, Repeatability: $< \pm 0.35\%$ of setpoint

*NTP = 25 °C and 1 atmosphere

Inlets

- Maximum of two inlets installed
- EPC compensated for atmospheric pressure and temperature variation
- Inlets available:
 - Packed purged injection port (PPIP)
 - Standard and Inert Flow Path Split/Splitless capillary inlets (S/SL)
 - Multimode inlet (MMI)
 - Temperature-programmable cool on-column (PCOC)
 - Programmable temperature vaporizer (PTV)
 - Volatiles inlet (VI)

S/SL

- Suitable for all capillary columns (50 µm to 530 µm id).
- Split ratios up to 7,500:1 to avoid column overload. Setting split ratios (particularly low split ratios) is limited by column parameters and control of system flows (particularly low system flows).
- Splitless mode for trace analysis. Pressure-pulsed splitless is easily accessible for best performance.
- Maximum temperature: 400 °C.
- EPC available in two pressure ranges: 0 to 100 psig (0 to 680 kPa) for best control for columns ≥ 0.200 mm diameter; 0 to 150 psig for columns < 0.200 mm diameter.
- Gas saver mode to reduce gas consumption without compromising performance.
- Electronic septum purge flow control to eliminate "ghost" peaks.
- Total flow setting range:
0 to 200 mL/min N₂
0 to 1,250 mL/min H₂ or He
- Turn top inlet sealing system is built in standard with each 7890B S/SL inlet for quick, easy, injector liner changes.
- Optional inert S/SL inlet includes chemical deactivation process for weldment and weldment insert

MMI

- Provides the flexibility of a standard Agilent split/splitless inlet, combined with temperature programmable capabilities which allow for large volume injection. Also supports cool injections for improved signal response.

- Temperature control: LN₂ (to -160 °C), LCO₂ (to -70 °C), air cooling (to ambient +10 °C with oven temperature < 50 °C) (due to high consumption, air cooling with cylinders is not advised). Temperature programming of up to 10 ramps at up to 900 °C/min. Maximum temperature: 450 °C.
- Injection modes:
 - Hot or cold split/splitless
 - Pulsed split/splitless
 - Solvent vent
 - Direct
- Suitable for all capillary columns (50 µm to 530 µm)
- EPC pressure range (psig): 0 to 100 psig
- Split ratio: up to 7500 to 1 to avoid column overload. Setting split ratios (particularly low split ratios) is limited by column parameters and control of system flows (particularly low system flows).
- Splitless mode for trace analysis. Pressure pulsed splitless is easily accessible for improved performance.
- Electronic septum purge flow control
- Compatible with Merlin Microseal septum
- Setup of parameters facilitated with Agilent Solvent Elimination Calculator
- Total flow setting range:
 - 0 to 200 mL / min N₂
 - 0 to 1,250 mL/min H₂ or He
- Turn-top inlet sealing system is built in standard with each 7890B Multimode inlet for quick, easy injector liner changes

PCOC

- Direct injection onto cool capillary column ensures quantitative sample transfer with no thermal degradation.
- Automatic liquid injection supported directly onto columns ≥ 0.250 mm id.
- Maximum temperature: 450 °C. Temperature programming in 3 ramps or tracking oven. Subambient control to -40 °C is optional.
- Electronic pressure control range: 0 to 100 psig.
- Electronic septum purge flow control.
- Optional solvent vapor exit for large-volume injections.
 - Electronically controlled, inert, three-way valve allows solvent venting.
 - Includes software for method optimization.
 - Preamsembled retention gaps/vent line/analytical column for easy installation.

PPIP

- Direct injection onto packed and wide-bore capillary columns.
- Electronic flow/pressure control: 0 to 100 psig pressure range, 0.0 to 200.0 mL/min flow range. Ranges are chosen to provide optimum performance over normal packed column setpoint ranges.
- Electronic septum purge flow control.
- 400 °C maximum operating temperature.
- Adapters included for 1/4-in. and 1/8-in. packed columns, and 0.530-mm capillary columns.

PTV

- Supports hot/cold split and splitless modes as well as large volume injections.
- Temperature control: either LN₂ (to -160 °C) or LCO₂ (to -65 °C) cooling. Temperature programming of up to 3 ramps at up to 720 °C/min. Maximum temperature: 450 °C.
- EPC pressure range 0 to 100 psig.
- Split ratio up to 7,500:1. Setting split ratios (particularly low split ratios) is limited by column parameters and control of system flows (particularly low system flows).
- Electronic septum purge flow control.
- Choice of Gerstel septumless head or Merlin Microseal® septum head.
- 450 °C maximum operating temperature.
- Total flow setting range:
 - 0 to 200 mL/min N₂
 - 0 to 1,250 mL/min H₂ or He

VI

- Very low volume (32 µL) interface suitable for gas or prevaporized samples. Recommended for use with headspace, purge and trap, or thermal desorption samplers.
- Three modes for optimized sample introduction: split (up to 100:1 split ratio), splitless, and direct.
- Optimized EPC (H₂ or He carrier, 0.00 to 100 psig pressure control, 0.0 to 100 mL/min flow control).
- Electronic septum purge flow control.
- Treated flow path provides inert surface for minimum component adsorption.
- Maximum temperature: 400 °C.

Detectors

- Electronic pneumatics control and electronic on/off for all detector gases.
- EPC compensated for atmospheric pressure and temperature variation.

Detectors available:

FID

- Flame ionization detector (FID) that responds to most organic compounds.
- Minimum detectable level (for tridecane): < 1.4 pg C/s
- Linear dynamic range: >10⁷ ($\pm 10\%$). Full-range digital data path enables peaks to be quantified over the entire 10⁷ concentration range in a single run.
- Data rates up to 500 Hz accommodate peaks as narrow as 10 msec at half height.
- Standard electronic pneumatic control for three gases:
 - Air: 0 to 800 mL/min
 - H₂: 0 to 100 mL/min
 - Makeup gas (N₂ or He): 0 to 100 mL/min
- Available in two versions: capillary column optimized or adaptable for either packed or capillary columns.
- Flameout detection and automatic reignition
- 450 °C maximum operating temperature

TCD

- Thermal conductivity detector (TCD), a universal detector that responds to all compounds, excluding the carrier gas.
- Minimum detectable level: 400 pg tridecane/mL with He carrier. (This value may be affected by laboratory environment).
- Linear dynamic range: $> 10^5 \pm 5\%$
- Unique fluidic switching design provides rapid stabilization from turn-on, low-drift performance.
- Signal polarity can be run-programmed for components having higher thermal conductivity than the carrier gas.
- Maximum temperature: 400 °C
- Standard EPC for 2 gases (He, H₂, or N₂ matched to carrier gas type)
- Make-up gas: 0 to 12 mL/min
- Reference gas: 0 to 100 mL/min
- The 7890B GC can accommodate a third detector as TCD located on the left-hand side of the GC.

Micro-ECD

- Micro-electron capture detector (micro-ECD), a very sensitive detector for electrophilic compounds such as halogenated organic compounds.
- Minimum detectable level: < 4.4 fg/mL lindane
At standard checkout conditions, with a detector temperature of 300 °C and flow to the detector (makeup plus column) of 30 mL/min, this is equivalent to 4.5 fg/sec.
- Proprietary signal linearization. Linear dynamic range: $> 5 \times 10^4$ with lindane
- Data acquisition rate: up to 50 Hz

- Uses β emission of < 15 mCi ⁶³Ni as the electron source.
- Unique micro-cell design minimizes contamination and optimizes sensitivity.
- 400 °C maximum operating temperature
- Standard EPC makeup gas types: argon/5% methane or nitrogen; 0 to 150 mL/min
- The 7890B GC can accommodate a third detector as micro-ECD located on the left side of the GC.

NPD

- Nitrogen-phosphorus detector (NPD), a detector specific to nitrogen or phosphorus-containing compounds.
- NPD available with one of two beads, Blos (glass) bead or white ceramic bead (legacy offering)
Compared to the legacy white ceramic bead, the Blos bead offers:
 - Longer lifetime
 - More stable operation during the bead's lifetime
- MDL: < 0.08 pg N/s, < 0.01 pg P/s with azobenzene/malathion/octadecane mixture with Blos bead
- MDL: < 0.3 pg N/s, < 0.1 pg P/s with azobenzene/malathion/octadecane mixture with white ceramic bead
- Dynamic range: $> 10^5$ N, $> 10^5$ P with azobenzene/malathion mixture with Blos or white ceramic bead
- Selectivity: 25,000 to 1 g N/g C, 200,000 to 1 g P/g C with azobenzene/malathion/octadecane mixture with Blos bead
- Selectivity: 25,000 to 1 g N/g C, 75,000 to 1 g P/g C with azobenzene/malathion/octadecane mixture with white ceramic bead

- Data acquisition rate: up to 200 Hz
- Standard EPC for three gases:
 - Air: 0 to 200 mL/min
 - H₂: 0 to 30 mL/min
 - Makeup gas: 0 to 100 mL/min
- Available for packed/capillary columns or optimized for capillary columns
- 400 °C maximum operating temperature

FPD + (Plus)

- Newly designed single-wavelength flame photometric detector (FPD), or dual-wavelength flame photometric detector (DFPD) – a sensitive, specific detector to sulfur- or phosphorus-containing compounds.
- MDL: < 45 fg P/s, < 2.5 pg S/s with methylparathion
- Dynamic range: $> 10^3$ S, 10^4 P with methylparathion
- Selectivity: 10^6 g S/g C, 10^6 g P/g C
- Data acquisition rate: up to 200 Hz
- Standard EPC for three gases:
 - Air: 0 to 200 mL/min
 - H₂: 0 to 250 mL/min
 - Makeup gas: 0 to 130 mL/min
- Available in single- or dual-wavelength versions.
- 400 °C maximum operating temperature
- Agilent 7890B GC's ability to handle 4 signals allows simultaneous use of DFPD, top-mounted GC detector, and TCD.

SCD (Model 355)

- Highest sensitivity and selectivity for sulfur-containing compounds.
- MDL: Typical < 0.5 pg/s, dimethyl sulfide in toluene
- Linear dynamic range: > 10⁴
- Selectivity: > 2 x 10⁷ g S/g C

NCD (Model 255)

- High selectivity for nitrogen-containing compounds.
- MDL: < 3 pg N/s, in both N and nitrosamine modes, 25 ppm N as nitrobenzene in toluene
- Linear dynamic range: > 10⁴
- Selectivity: > 2 x 10⁷ g N/g C (selectivity in nitrosamine mode is matrix dependent)

See Agilent Sulfur Chemiluminescence Detector and Nitrogen Chemiluminescence Detector Specification Guide for additional information regarding performance and physical and environmental specifications.

Mass Spectrometers

See 5977 Series MSD specifications. See 7000 Triple Quadrupole GC/MS specifications. See 7200 Q-TOF Specifications. See 240 Ion Trap MS specifications.

Other Detectors

Specialized detectors are available through Agilent Channel Partners including: atomic emission, Pulsed Flame Photometric (PFPD), Photoionization (PID), Electrolytic Conductivity (ELCD), Halogen Specific (XSD), Oxygenate Flame Ionization (O-FID), and Pulsed Discharge Helium Ionization (PDHID)

Auxiliary EPC Devices

The 7890B GC has two positions for auxiliary EPC devices located on the back of the GC. Each position can be any combination of auxiliary EPC or pneumatics control module.

Note: The communication for a third detector such as TCD or ECD EPC module (located on the left side of the GC) interfaces via one of these auxiliary EPC module positions. If a third detector (TCD or ECD) is installed, one of these auxiliary positions is thus taken.

Auxiliary EPC Module

- Three channels of pressure control
- EPC compensated for atmospheric pressure and temperature variation when connected to a user-defined capillary column
- Psig (gauge) and psia (absolute) pressure control
- Forward pressure regulated
- Maximum of 2 auxiliary EPC modules per GC

Pneumatics Control Module (PCM)

- 2 channels for operation
- EPC compensated for atmospheric pressure and temperature variation when connected to a user-defined capillary column
- First channel:
 - Pressure or flow control
 - Psig (gauge) and psia (absolute) pressure control
 - Forward pressure regulated
- Second channel:
 - Pressure control
 - Psig (gauge) and psia (absolute) pressure control

- Forward pressure or back pressure regulated

- PCM can be located in either/both inlet EPC positions, and in either/both auxiliary positions on the back of the 7890B GC
- Maximum of 3 PCMs per GC

Capillary Flow Technology

Agilent's proprietary Capillary Flow Technology provides devices with reliable, leak-free, in-oven capillary connections to help analyze complex samples and provide gains in productivity. Devices feature:

- Photolithographic chemical milling for low dead volume flow pathways
- Diffusion bonding to form a single flow plate
- "Credit card" profile for fast thermal response
- Projection welded connections for leak-tight fittings
- Deactivation of all internal surfaces in the sample path for inertness

All of the following purged Capillary Flow devices require one channel from an auxiliary EPC or PCM module.

Purged capillary flow devices, such as the Deans switch, purged effluent splitters, and purged ultimate unions, introduce an additional flow in the sample stream. For detectors that operate at low flow rates, like the MSD and TCD, some decrease in sensitivity will occur.

Deans Switch

Deans switching provides additional selectivity using 2-dimensional GC analysis. Peaks of interest that may be coeluting on one column are diverted to a separate column of different stationary phase. This technique can also reduce maintenance costs by having troublesome solvents or other components bypass detectors or columns.

- Dimensions:
65 mm x 31 mm x 1 mm
(65 mm x 31 mm x 11 mm, including weldment connectors with tubing to reach through top of oven.)
- Weight: 30 grams, not including connector tubing.

Purged Effluent Splitters

A 3-way purged effluent splitter sends column effluent to three detectors, even an MSD. More information can be obtained in a single run to help locate target peaks in unknowns. A 2-way purged effluent splitter version is also available.

- Dimensions:
65 mm x 31 mm x 1 mm
(65 mm x 31 mm x 11 mm, including weldment connectors with tubing to reach through top of oven.)
- Weight: 26 grams, not including connector tubing.

Backflush

An Agilent Purged Ultimate Union or any of the above purged Capillary Flow devices *also* provides the ability to backflush. By reversing column flow immediately after the last compound of interest has eluted, you can eliminate long bake-out times for highly retained (or high-boiling) contaminants, thereby shortening cycle times and protecting

the column and detector. As backflush occurs after peaks of interest have eluted, the chromatographic method for peaks of interest does not need to change. Backflush is available when the column is attached to a split/splitless, volatiles interface, Multimode, or PTV inlet.

The 7890B GC firmware has been optimized for backflush operation:

- Displays positive and negative flows
- Inlet/outlet pressures settable to the limits of the controlling EPC devices.
- EPC can be introduced at any column or restrictor connection
- Capillary Flow configuration of up to six columns/restrictors

Backflush Wizard software works with Agilent CDS to provide a step-by-step procedure for configuring the backflush hardware and column plumbing. The chromatogram must have 3 well separated peaks. See Backflush brochure for additional system requirements.

Automated Sample Injectors and Samplers

- 7693A ALS Interface on 7890B provides power and communications for up to two 7693A automatic injectors, one automatic sampler tray, and one heater/mixer/bar code reader. Injectors and tray install easily without the need for alignment.
- Agilent Pal Injector on 7890B. Specialized software controls available on OpenLab CDS ChemStation and EzChrom editions, MassHunter, and MSD Productivity ChemStation.

- 7650A ALS Interface on 7890B provides power and communications for one 7650 automatic injector. Compatible with one additional 7693A mounted on back inlet. Injector installs easily without the need for alignment.

Data Communications

- LAN
- Two analog output channels (1-mV, 1-V, and 10-V output available) as standard
- Remote start/stop
- Keyboard control of the Agilent Automatic Liquid Sampler (ALS)
- Storage of 10 methods
- Storage of five ALS sequences
- Binary-coded decimal input for a stream selection valve
- Serial port interface for Remote Advisor or optional Bar Code Reader. BCR allows entering bar code of columns, liners, and other consumables directly into the GC method. USB Bar Code Reader also available for entering consumable information through the CDS computer.

Maintenance and Support Services

- Integrated early maintenance counters allows planned maintenance and helps eliminate unnecessary downtime.
- Instrument events or shutdowns displayed on keyboard display or Data System.
- Remote diagnostics
- Performance verification services
- Easy parts identification and part number finder software (standalone software, does not require Agilent CDS)

Environmental Conditions

- Ambient operating temperature: 15 °C to 35 °C
- Ambient operating humidity: 5% to 95% (noncondensing)
- Storage extremes: -40 °C to 70 °C
- Power requirements
 - Line voltage: 120/200/220/230/240 Volts \pm 10% of nominal
 - Frequency: 50/60 Hz

Safety and Regulatory Certification

Conforms to the following safety standards:

- Canadian Standards Association (CSA) C22.2 No. 60101-1
- Nationally Recognized Test Laboratory (NRTL): ANSI/UL 61010-1
- International Electrotechnical Commission (IEC): 61010-1, 60101-2-010, 60101-2-081
- EuroNorm (EN): 61010-1

Conforms to the following regulations on Electromagnetic Compatibility (EMC) and Radio Frequency Interference (RFI):

- CISPR 11/EN 55011: Group 1 Class A
- IEC/EN 61326
- AUS/NZ N10149
- This ISM device complies with Canadian ICES-001. Cet appareil ISM est conforme à la norme NMB-001 du Canada.
- Designed and manufactured under a quality system registered to ISO 9001, Declaration of Conformity available.

Other Specifications

- Height: 49 cm (19.2 in.)
- Width: 58 cm (22.9 in.) with EPC inlet and detectors; 68 cm (26.8 in.) with third detector as TCD or with certain valving options mounted on left-hand side of GC
- Depth: 51 cm (20.2 in.)
Typical weight: 49 kg (108 lb)
- Four internal 24-volt connections (up to 150 mA)
- Two external 24-volt connections (up to 150 mA)
- Two on/off contact closures (48 V, 250 mA max)
- 550 timed events via data system. 50 timed events via GC keyboard.
- Support for up to 8 valves.
 - Valves 1 to 4, 12V DC 13 watt in a heated valve box
 - Valves 5 to 6, 24 V DC 100 mA unheated, for low power valve applications
 - Valves 7 to 8, externally powered as a remote event from separate contact closure
- Independent heated zones, not including oven: six (two inlets, two detectors, and two auxiliary). Third detector as TCD can utilize any available zone from inlet or auxiliary zones.
- Maximum operating temperatures for auxiliary zones: 400 °C

References

1. A Guide to Interpreting Detector Specifications for Gas Chromatography. Agilent Technologies, publication 5989-3423EN
2. The Importance of Area and Retention Time Precision in Gas Chromatography. Agilent Technologies, publication 5989-3425EN

For More Information

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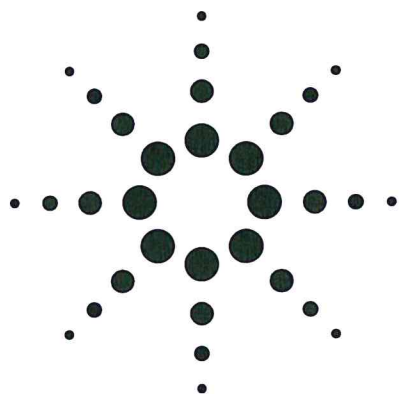
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Agilent 7693A Automated Liquid Sampler

Specifications

Overview

The Agilent 7693A is a state-of-the-art sample handling and injection system that provides the highest levels of precision and reliability for gas chromatographic sampling. The 7693A is a complete redesign of the most popular gas chromatographic sample introduction system in history. It takes advantage of the latest technology to offer greater reliability and performance.

The 7693A system consists of:

- Injection tower
- Sample tray
- Heater/mixer/bar code reader
- Enhanced Sample Handling Syringe Carriage
- Heater/chiller module
- Controller board for use with 6890 Plus
- Controller for use with 6890A

Compatibility

Agilent 7890A and 7890B gas chromatograph system
Agilent 6890N, 6890 Plus, and 6890A gas chromatographs
Agilent 6850N and 6850A gas chromatographs (injector only)
Agilent 7820 gas chromatograph (injector only)
Agilent 5975T GC/MSD



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Chromatographic Performance

- Sample discrimination $\leq 10\%$ ¹
- Better than 0.3% RSD area reproducibility²
- Less than 5% RSD in response factor variation³
- Less than 1 part in 100,000 carryover⁴

Injection Features

- Fast and on-column default injection types
- Fully programmable dispense rate, draw rate, and injection rate
- Fast injections are performed in less than 100 ms
- Support of 250- and 500- μ L syringes with optional Enhanced Sample Handling Syringe Carriage
- User-definable sandwich injection mode
- Transfer turret can hold up to three 2-mL vials at once for use with advanced sampler capabilities
- Active vial-gripping mechanism
- Sensors in the vial-gripper mechanism detect that a sample vial has been grasped
- Sensors in the injector turret detect that the sample vial has been transferred to the injector
- Sensors to detect the presence of Enhanced Sample Handling Syringe Carriage
- Sensors to detect the injection port location for easy movement between front and rear inlet ports
- Illuminated syringe for easy viewing
- User-changeable syringe carriage
- Self-aligning injector and tray
- Available solvent-saving mode extends solvent capacity by up to eightfold

¹From cool on-column analysis of C10–C42; meets or exceeds ASTM 2887

²Chromatographic conditions for C10–C16

1 μ L injection (5 μ L syringe)

10 injections

1 sample wash; 6 sample pumps

Inlet: Split 100:1 (He); 250 °C; 3 mL/min (constant flow)

Column: HP-5MS – 30 m \times 320 μ m \times 0.250 μ m df

Oven: 180 °C isothermal

Detector: FID

³Chromatographic conditions for C14–C16

10 μ L syringe

10 injections for each volume; injection volumes from 10 to 50%

2 sample washes; 6 sample pumps

3 solvent A and B washes post-injection

Inlet: Split 25:1 (He); 250 °C; 3.2 mL/min (constant flow)

Column: HP-5MS – 30 m \times 320 μ m \times 0.500 μ m df

Oven: 100 °C (1 min); 30 °C/min to 250 °C

Detector: FID

⁴Determined by residual analyte area measured in subsequent solvent blank (4 solvent A and 4 solvent B post-washes)

Sample Injection

The 7693A injector provides a wide range of injection capabilities to provide maximum flexibility:

Injection parameter control	Parameter range
Variable sampling depth	–2 to +30 mm above default
Pre- and post-injection syringe	0–15 rinses for each of solvent A and B rinsing
Sample prewashes	0–15 prewashes
Viscosity delay	0–7 seconds
Preinjection sample pumps	0–15 pumps
Minimum sample injection	10 nL (with 1 µL syringe)
Maximum sample injection	50 µL (with 100 µL syringe in standard tower) 250 µL (with 500 µL syringe and Enhanced Sample Handling Syringe Carriage)
Injection plunger speed	Fast/slow/variable
On-column injection mode	Automatic
Multiple injection mode	1–99 injections of specified volume
Injection delay time	0–1 minute (within multiple injection mode)
Preinjection dwell time	0–1 minute
Post-injection dwell time	0–1 minute
Solvent saver	Set at 10, 20, 30, 40, and 80% of syringe volume
Injection range	1 to 50% of syringe volume in increments of 1%
Syringe size	1, 2, 5, 10, 25, 50, and 100 µL maximum volume with standard syringe carriage 250 and 500 µL maximum volume with optional Enhanced Sample Handling Syringe Carriage

Sample Management

Vial Handling

- System supports neckless (shell) vials, standard 2 mL vials, and micro vial inserts
- 16 samples with injection tower and standalone turret
- 150 samples with injection tower and tray
- Sampler tray positioned away from GC to minimize exposure to heat
- Tray samples stored in 3 removable 5 x 10 racks
- Racks are compatible with multi-tip pipettes

Solvent

- 4 mL solvent vials
- 2 × 4 mL for injector tower with standalone turret (usable solvent capacity of 4 mL)
- 10 × 4 mL for injector tower with transfer turret (usable solvent capacity of 20 mL)

Syringe Support

- Up to 100 µL with standard syringe carriage
- 250/500 µL with optional Enhanced Sample Handling Syringe Carriage
- Supports compatible liquid and gastight syringes

Sample Sequencing

- Advanced sequencing with random access using Agilent software
- Simple sequencing using the 7890/6890 Series GC keyboard
- Next sample overlap (Not available on 6850)
- Capability to run priority samples

Heater/Chiller Module

- User installable
- Heats or cools all 150 vials in the tray (temperature range 5–60°C)
- Built-in sensor monitors average coolant temperature in plate
- Uses aluminum vial racks to hold samples
- Requires customer-supplied thermal bath recirculator

Heater/Mixer/Bar Code Reader

- Single vial heating prior to injection (temperature range 35–80°C)
- Single vial mixing prior to injection
- Heating time and mixing time are fully programmable
- Bidirectional mixing up to 4,000 RPM
- Entire module is integrated into 150-position sample tray

Method Programming

The 7693A system, equipped with two towers, a tray, a heater/mixer/bar code reader, and Enhanced Sample Handling Syringe Carriage can perform liquid manipulation including:

- Solvent addition
- Standard addition
- Internal standard addition
- Dilution
- Derivatization
- Quenching

Physical Specifications

Nominal Weights and Dimensions

Weight

7693A injector	3.9 kg
7693A tray without options or accessories	6.8 kg
7693A tray with heater/mixer/bar code reader	7.1 kg
7693A tray with heater/chiller	9.0 kg
7693A tray with heater/mixer/bar code reader and heater/chiller	9.3 kg
Controller box for 6890A	5 kg

Height

Above bench surface of top of 7693A injector as mounted on 7890	94 cm
Above bench surface of bottom of 7693A tray as mounted on 7890	43 cm
Above bench surface of top of 7693A tray as mounted on 7890	73 cm
Of controller box for 6890A	11 cm

Width

Extension of 7693A tray past left side of 7890	45 cm
Width of controller box for 6890A	25 cm

Depth

Of 7693A tray with/without options, front to back	42 cm
Extension of 7693A tray past front of 7890	2 cm
Of 6890A controller	31 cm

Technical and Environmental

- Indoor use only in ordinary atmospheres
- Altitude up to 4,300 m
- Ambient operating temperature 15 to 35 °C
- Ambient operating humidity 5 to 95%
- Mains supply voltage fluctuations up to $\pm 10\%$ of the nominal voltage
- Pollution degree 2, Installation Cat II
- 7693A, ALS Controller, is rated for mains connection to 100–120 VAC or 220–240 VAC, 50/60 Hz, 180 VA

Safety and Support

- Injector will not operate if not mounted on GC
- Error indicators show the source operating failure
- Flash memory allows product firmware enhancements to be uploaded via PC
- Onsite repair is available for the 7693A injector and tray system
- In the event of any instrument failures, Agilent's industry-leading *Express Exchange** service can minimize downtime by shipping replacement sampler modules within hours
- Contact sales representative to verify compatibility with software

* Not available in all countries

For More Information

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Agilent Technologies



7890 Series GC Site Preparation Checklist

Thank you for purchasing an **Agilent Instrument**. To get you started and to assure a successful and timely installation of your 7890 GC, please refer to this site prep checklist.

Correct site preparation is the key first step in ensuring that your instruments and software systems operate reliably over an extended lifetime. This document is a **checklist** prepared for you that outlines the space, utilities, supplies and consumable requirements for your equipment for your site.

For more detailed site preparation information, refer to the

"Agilent GC, GC/MS, and Automatic Liquid Sampler (ALS) Site Preparation Guide"

that is located at:

https://extranet.chem.agilent.com/Library/usermanuals/Public/7890B_SitePrepGuide.pdf

And on the www.agilent.com 7890 Series GC Technical Support Page: <http://www.chem.agilent.com/en-US/Technical-Support/Instruments-Systems/Gas-Chromatography/7890A-GC/Pages/default.aspx>

Customer Responsibilities

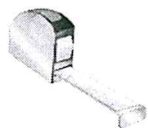
Make sure your site meets the following specifications before the installation date. For details, see specific sections within this checklist, including:

- ☐ The necessary laboratory or bench space is available
- ☐ The environmental conditions for the lab as well as laboratory gases and plumbing
- ☐ The power requirements related to the product (e.g., number & location of electrical outlets)
- ☐ The required operating supplies necessary for the product and installation
- ☐ Please consult Other Requirements section below for other product-specific information.

If Agilent is delivering installation and familiarization services, users of the instrument should be present throughout these services; otherwise, they will miss important operational, maintenance and safety information.

Important Customer Information

1. If you have questions or problems in providing anything described under "Customer Responsibilities" above, please contact your local Agilent or partner support/service organization for assistance prior to delivery. In addition, Agilent and/or its partners reserve the right to reschedule the installation dependent upon the readiness of your laboratory.
2. Should your site not be ready for whatever reasons, please contact Agilent as soon as possible to re-arrange any services that have been purchased.
3. Other optional services such as additional training, operational qualification (OQ) and consultation for user-specific applications may also be provided at the time of installation when ordered with the system, but should be contracted separately.

7890 Series GC Site Preparation Checklist

Dimensions and Weight

Identify the laboratory bench space before your system arrives based on the table below.

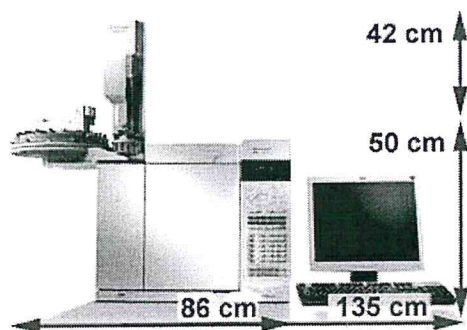
Pay special attention to the **total height and total weight requirements for all system components you have ordered and avoid bench space with overhanging shelves**. Also pay special attention to the total weight of the modules you have ordered to ensure your laboratory bench can support this weight.

Special Notes

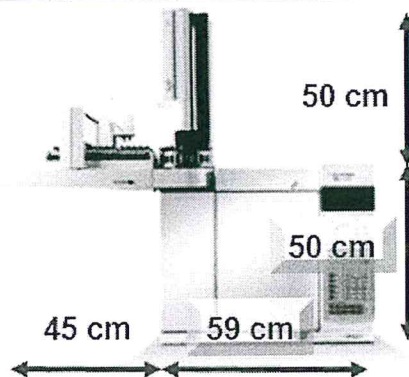
1. Allow at least 25 cm clearance between back of GC and wall to dissipate heated air. See picture below. A simple system that includes a GC and a computer requires about 86 cm of bench space.
2. Avoid bench space with overhanging shelves. A 7683 or 7693 automatic liquid sampler will add to the height of the instrument as shown below.
3. G1888A Headspace, 5977 GCMS and QQQ MS are installed to the left of the 7890 and the 7697 Headspace and 220/240 Ion Trap MS are installed to the right. Refer to the "Dimensions and Weight" section of the "Agilent GC, GC/MS, and ALS Site Preparation Guide" for more detail.

Instrument Dimensions

Component	Height (cm)	Width (cm)	Depth (cm)	Weight (kg)
G3440A Agilent 7890 GC	50 to 58	59	54	50
G3440A with 3rd detector	50 to 58	68	54	57
G2913A 7683 Auto-injector	42 above GC			3.1
G2614A 7683 Tray		30 Left of GC		3.0
G4513A 7693 Auto-injector	50 above GC			3.9
G4514A 7693 Tray		45 Left of GC	2 cm in front of GC	6.8



7890 GC with 7683 ALS System



7890 GC with 7693 ALS System

Conversions: 1 kg = 2.2 pounds; 1 cm = 0.39 inches.

**7890 Series GC Site Preparation Checklist****Environmental Conditions**

Operating your instrument within the recommended temperature ranges insures optimum instrument performance and lifetime.

Special Notes

1. Performance can be affected by sources of heat & cold e.g. direct sunlight, heating/cooling from air conditioning outlets, drafts and/or vibrations.
2. The site's ambient temperature conditions must be stable for optimum performance.
3. For storage or shipping, the allowable temperature range is -40 to 70°C and the allowable humidity range is 5-95%, non-condensing. After exposing the GC to extremes of temperature or humidity, allow 2 hours for it to return to the recommended ranges.
4. Refer to the "Environmental Conditions" section of the "Agilent GC, GC/MS, and ALS Site Preparation Guide" for more detail.

Instrument Description	Operating temp range °C	Operating humidity range (%)	Maximum altitude (m)
Agilent 7890 GC, Standard Oven	15 to 35	5 - 95%	4,615
Agilent 7890 GC, Fast Oven (Options 002 and 003)	15 to 35	5 - 95%	4,615
Agilent 7890 GC, Storage	-40 to 70	5 - 95%	4,615

Conversions: 1 meter = 3.28 feet
1 BTU = 1055 Joules



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Heat Dissipation

Your facilities manager may wish to know the amount of heat that the system generates in order to establish its contribution to the overall room ventilation requirements.

The following table may help you calculate the additional BTU's of heat dissipation from this new equipment. Maximums represent the heat given off when heated zones are set for maximum temperatures.

Refer to the "Heat Dissipation" section of the "Agilent GC, GC/MS, and ALS Site Preparation Guide" for more detail.

Oven type	Heat dissipation
Standard oven ramp	7681 BTU / hour maximum
Fast oven ramp (options 002 and 003)	10,071 BTU / hour maximum

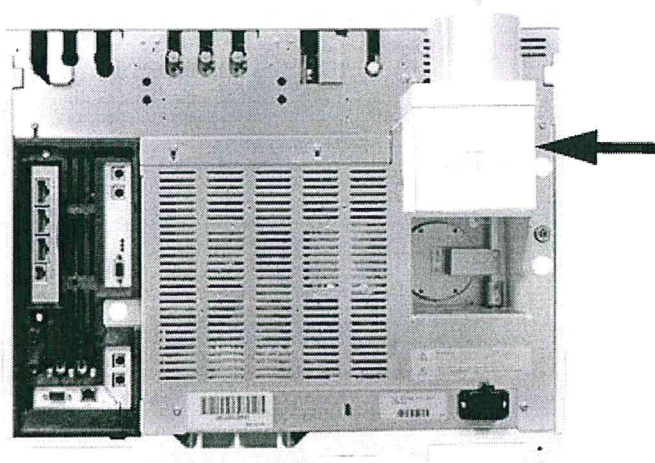
Venting the Oven - Oven Heat Deflector Option 306 or Part Number G1530-80650

Below is a picture that shows the back view of an installed 7890 GC - with the Oven Heat Deflector installed. The exhaust duct is 10 cm (4 inches) in diameter and adds 14 cm(5.5 inches) to the back of the GC.

The connecting duct should provide unrestricted flow for the oven air and be as short and straight as possible.

With the exhaust deflector installed the exhaust is about 65 CFM (ft³/min /1.840 m³/min). Without the deflector, the exhaust rate is about 99 CFM (ft³/min /2.8 m³/min).

Refer to the "Exhaust Venting" section of the "Agilent GC, GC/MS, and ALS Site Preparation Guide" for more detail.





7890 Series GC Site Preparation Checklist



Power Consumption

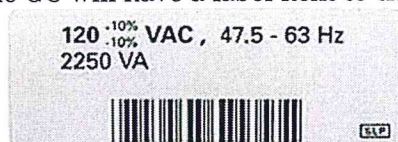
The GC power consumption and requirements depend on the type of oven that you ordered and the country the unit is shipping to.

The following table Lists the AC Power requirements for various 7890 GC configurations:

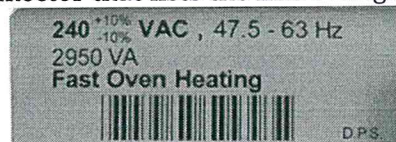
Product	Oven type	Line voltage (VAC)	Frequency (Hz)	Maximum continuous power consumption (VA)	Current rating (amps)	Power outlet current rating
7890 Series GC	Standard	Americas: 120 single phase (-10% / +10%)	48-63	2250	18.8	20 Amp Dedicated
7890 Series GC	Standard	220/230/240 single/split phase (-10% / +10%)	48-63	2250	10.2/9.8/9.4	10 Amp Dedicated
7890 Series GC	Fast	Japan 200 split phase (-10% / +10%)	48-63	2950	14.8	15 Amp Dedicated
7890 Series GC	Fast	220/230/240 single/split phase (-10% / +10%)	48-63	2950	13.4/12.8 / 12.3	15 Amp Dedicated

Special Notes

1. The number and type of electrical outlets depends on the size and complexity of your system. For example, a GC system with a computer, monitor, printer, and HUB/Switch requires 5 outlets.
2. The outlet for the GC must be dedicated to the GC with a dedicated ground.
3. The GC will have a label next to the power cord connector that lists the line voltage requirements.



Line Voltage
Frequency
Power






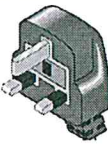




Notes:

1. **Option 003 is for any Country with standard 120/240 VAC to accommodate 208 VAC Power.**
2. Power line conditioners that contribute any power line distortion should not be used with the Agilent 7890 GC.
3. Refer to the "Power Consumption" section of the "Agilent GC, GC/MS, and ALS Site Preparation Guide" for more detail.
4. It is important to measure the line voltage at the receptacle for the GC to insure compatibility with the power configuration of the GC.

7890 Series GC Site Preparation Checklist
7890 Power Cords

Refer to the "Power Consumption" section - "Common Instrument Power Cord Plugs" - of the "Agilent GC, GC/MS, and ALS Site Preparation Guide" for more detail.

Country	Voltage/Amps	Wall Termination	Length	Plug
Australia	240 Volts - 16 Amps	AS3112	2.5m	
China	220 Volts - 15 Amps	GB 1002	4.5m	
Europe, Korea	220/230/240 - 10 Amps	CEE/7/V11	2.5m	
Denmark, Switzerland	230 Volts - 16 Amps	SWISS/DENMARK 1302	2.5m	
India, South Africa	240 Volts - 15 Amps	AS3112	4.5m	
Israel	230 Volts - 16 Amps, 16 AWG	ISRAELI SI32	2.5m	
Japan	200 Volts - 20 Amps	NEMA L6-20P	4.5m	
United Kingdom, Hong Kong, Singapore, Malaysia	240 Volts - 13 Amps	BS89/13	2.5m	
United States	120 Volts - 20 Amps, 12 AWG	NEMA 5-20P	4.5m	
United States	240 Volts - 15 Amps (Standard) 14 AWG 208 Volts - 15 Amps (Opt 003)	NEMA L6-15P	2.5m	
Taiwan, South America	120 Volts - 20 Amps, 12 AWG	NEMA 5-20P	2.5m	



7890 Series GC Site Preparation Checklist



Gas Selection

Special Notes

1. Refer to the "Gas and Reagent Selection" section in the "Agilent GC, GC/MS and ALS Site Preparation Guide" for more detail.
2. Agilent recommends a carrier and detector gas purity of 99.9995% or better. Air for flame detectors should be zero grade. Agilent also recommends using traps to remove hydrocarbons, water, and oxygen.
3. When used with capillary columns, GC detectors require a separate makeup gas for optimum sensitivity. This table lists gas recommendations for capillary columns and the preferred makeup gas types.
4. The inlet electronic pressure control (EPC) modules are calibrated for up to 4 carrier gases: Split/Splitless capillary (SS), Purged packed (PP), Programmable temperature vaporization (PTV), Multi-Mode (MM), and cool on-column (COC) are calibrated for Helium, Hydrogen, Nitrogen, and Argon methane 5%.
Volatiles inlet VI is calibrated for only Helium and Hydrogen.
5. For GC/MS requirements, refer to the "GC/MS Gas and Reagent Requirements" section in the "Agilent GC, GC/MS and ALS Site Preparation Guide"

Detector	Carrier gas	Make up 1st choice	Make up 2nd choice	Purge or reference
Electron capture	Hydrogen* Helium Nitrogen Argon/methane	Argon/methane 5% Argon/methane 5% Nitrogen Argon/methane 5%	Nitrogen Nitrogen Argon/methane 5% Nitrogen	Note: ArMe makeup provides maximum Dynamic Range Nitrogen makeup provides maximum Sensitivity
Flame ionization	Hydrogen Helium Nitrogen	Nitrogen Nitrogen Nitrogen	Helium Helium Helium	Hydrogen* and air for detector
Flame photometric	Hydrogen* Helium Nitrogen Argon	Nitrogen Nitrogen Nitrogen Nitrogen	None	Hydrogen* and air for detector
Nitrogen phosphorous	Helium Nitrogen	Nitrogen Nitrogen	Helium Helium	Hydrogen* and air for detector
Thermal conductivity	Hydrogen* Helium Nitrogen	Must be same as carrier and reference	Must be same as carrier and reference	Reference must be same as carrier and makeup

* See "Considerations For Hydrogen Carrier Gas" in this document.

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Gas Supply Pressures
Special Notes

1. Refer to the "General Requirements" section under "Gas Supplies" in the "Agilent GC, GC/MS and ALS Site Preparation Guide" for more detail.
2. The following tables list minimum and maximum pressures in psi for each electronic pneumatic control module (EPC). These requirements are for the input to the EPC module located at the back of the gas chromatograph. Conversions: 1 psi = 6.8947 kPa = 0.068947 Bar = 0.068 ATM.

Detectors

	FID	NPD	TCD	ECD	FPD
Hydrogen	35-100	35-100			45-100
Air	55-100	55-100			100-120
Make up	55-100	55-100	55-100	55-100	55-100
Reference			55-100		

Auxiliary EPC and Pneumatic Control channels

The minimum supply pressure for AUX and PCM modules is 20 psi greater than pressure used in your method. For example, if you need a pressure of 20 psi for the method, the supply pressure must be at least 40 psi.

	AUX EPC	PCM 1	PCM 2 or PCM Aux
Maximum pressure	120	120	120 with Forward pressure control 50 with Back pressure control

Inlets

The minimum supply pressure for inlet modules is 20 psi greater than pressure used in your method. For example, if you need a pressure of 40 psi for the method, the supply pressure must be at least 60 psi.

	SSL 150	SSL 100	MMI	PPIP	PCOC	PTV
Carrier max	170	120	170	120	120	120



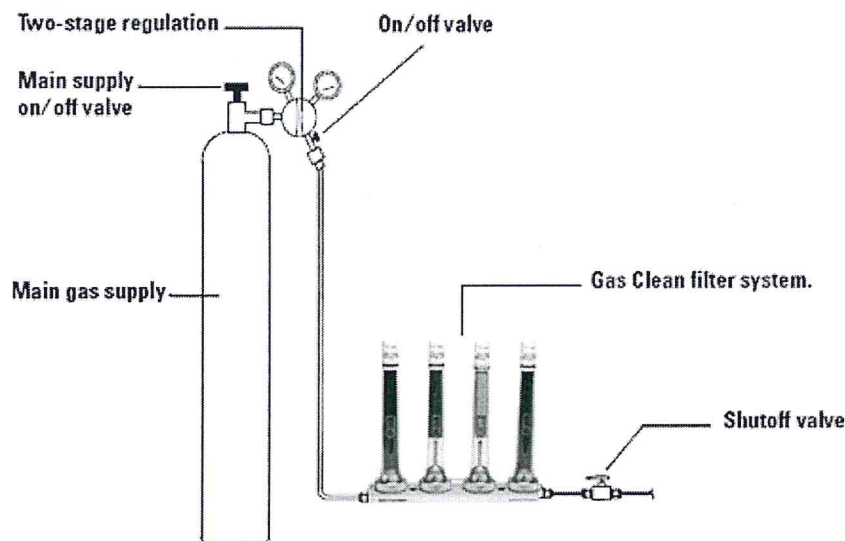
7890 Series GC Site Preparation Checklist



Gas Plumbing and Supplies

Plumbing Considerations

1. Refer to the "Gas Plumbing" section in the "Agilent GC, GC/MS and ALS Site Preparation Guide" for more detail.
2. Gases are supplied by tanks, internal distribution system, or gas generators. Tank supplies require two stage, pressure regulation. To connect tubing to the supply, it must have one 1/8-inch Swagelok® female connector for each gas. Make sure that your regulator has the appropriate sized adapter to end with a 1/8-inch Swagelok® female connector.
3. If your order did NOT include parts to connect the gas supply to your 7890 GC, you must supply pre-cleaned, 1/8-inch copper tubing and a variety of 1/8-inch Swagelok® fittings to connect the gas supply(s). Refer to the "GC Installation Kits" and "GC Plumbing" sections of this checklist for Part Numbers.
4. **Never use liquid thread sealer to connect fittings. Never use chlorinated solvents to clean tubing or fittings.**
5. Agilent also recommends using traps to remove water, hydrocarbons, and oxygen or a combination trap such as the "Gas Clean" Filter System that removes all three.



Special Notes

1. Shutoff Valves are recommended at both front and back Inlet Carrier Connections
2. FID, FPD and NPD need dedicated detector air supply
3. For Gas supply runs longer than 15 feet, use 1/4 inch tubing to prevent pressure drop
4. Do not reuse old copper tubing which can become brittle and break



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Gas Clean Filter Configurations

Refer to the "Gas Plumbing/Filters and Traps" section of the "Agilent GC, GC/MS, and ALS Site Preparation Guide" for more detail. Another good resource is the "Agilent Gas Clean Filter System User Manual" - http://www.chem.agilent.com/Library/usermanuals/Public/GasCleanFilter_5973-1528.pdf

Considerations for Hydrogen Carrier Gas

If planning to use hydrogen carrier gas, note that special considerations apply due to hydrogen's flammability and chromatographic properties. Refer to the "Gas Supplies/Requirements for Hydrogen as a Carrier Gas" section in the "Agilent GC, GC/MS and ALS Site Preparation Guide" for more detail.

Hydrogen Safety

When using hydrogen as the carrier gas or fuel gas, be aware that hydrogen gas can flow into the GC oven and create an explosion hazard. Therefore, be sure that the Hydrogen gas supply is turned off until all connections are made and ensure the inlet and detector column fittings are either connected to a column or capped at all times when hydrogen gas is supplied to the instrument.

In any application using hydrogen, leak test all connections, lines, and valves before operating the instrument.

Agilent highly recommends the G3388B Leak Detector or equivalent to safely check for leaks.

Supply tubing for Hydrogen Gas

Agilent recommends using NEW, chromatographic quality copper or stainless steel tubing and fittings when using hydrogen.

Do not re-use old tubing when installing or switching to hydrogen carrier gas. Hydrogen gas tends to remove contaminants left on old tubing by previous gases (by helium, for example).

These contaminants can appear in detector output as high background noise or hydrocarbon contamination for several weeks.

Do not use old copper tubing with hydrogen gas. Old copper tubing can become brittle and create a safety hazard.

Hydrogen Gas Supplies

Hydrogen can be supplied from a gas generator or from a cylinder.

Agilent recommends use of a high-quality hydrogen gas generator. A high-quality generator can consistently produce purity > 99.9999%, and the generator can include built-in safety features such as limited flow rates, and auto-shutdown.

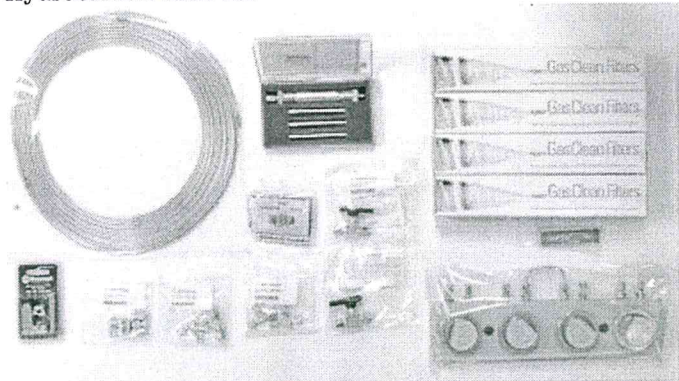
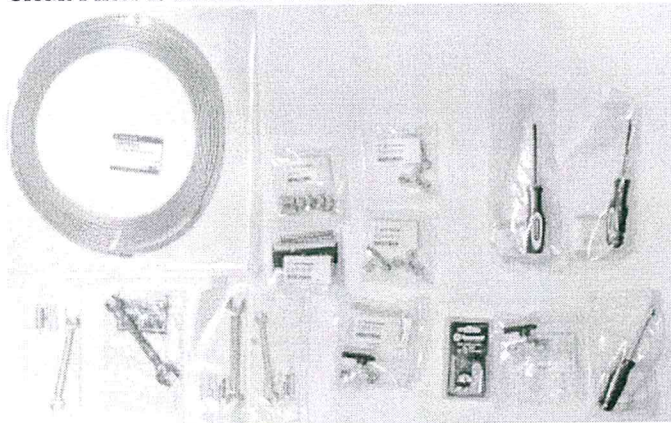
If using a hydrogen gas cylinder, Agilent recommends use of Gas Clean Filters to purify the gas.

Consider additional safety equipment as recommended by your company safety personnel.

7890 Series GC Site Preparation Checklist
GC Installation Kits

Pre-configured kits to make the GC system installation go smoother.

All kits include two Shutoff valves - one for each inlet carrier supply.

Description	Part number
<p>Installation Kit for FID/NPD/FPD (Includes Gas Clean Filter Kit CP736538) for Moisture, O2 and Hydrocarbon removal.</p> 	19199N
<p>Installation Kit for TCD/ECD/MSD - no Gas Filters Included - order separately for ECD - Gas Clean Filter is included with MSD.</p> 	19199M
<p>Stainless Steel Plumbing Kit - recommended for Hydrogen Carrier Gas</p> <p>Kit Contents:</p> <p>1/8" SS Swagelok Fittings - Nuts and Ferrules - 20/Pack</p> <p>Tees, 1/8" SS - Qty 2</p> <p>Tubing - 1/8" SS - 20 Foot Roll</p> <p>GC Tool Kit - Common Hand Tools for Maintaining your GC in a Zipper Bag</p> <p>Ball Valve - 1/8" SS - Qty 2</p>	19199S

**7890 Series GC Site Preparation Checklist****Tank Regulator Table**

All Agilent regulators are supplied with the 1/8-inch Swagelok® female connector.

Gas Type	CGA Number	Pressure Range	Part Number
Air	346	0-125 PSIG (8.6 Bar)	5183-4641
Hydrogen, Argon/Methane	350	0-125 PSIG (8.6 Bar)	5183-4642
Oxygen	540	0-125 PSIG (8.6 Bar)	5183-4643
Helium, Argon, Nitrogen	580	0-125 PSIG (8.6 Bar)	5183-4644
Air	590	0-125 PSIG (8.6 Bar)	5183-4645

Common Plumbing Supplies

Recommended Supplies to make the GC system installation go smoother.

Description	Part number
1/8 inch Copper Tubing - pre-washed - 50 feet	5180-4196
1/8 inch thick wall Stainless Steel Tubing - 20 Feet	7157-0210
1/8 inch Ball Shutoff Valve for Carrier Gas Supplies (order 1 for each inlet system)	0100-2144
PTFE tape (Never use liquid thread sealer to connect fittings.)	0460-1266

Miscellaneous Gas Plumbing Information

1. Cryogenic cooling with Liquid N₂ requires 1/4-inch insulated copper tubing – 25-30 PSI supply.
2. Cryogenic cooling with Liquid CO₂ requires 1/8-inch heavy-walled, stainless steel tubing – 750-1000 PSI supply – tank with dip tube..
3. Internal Valco® rotary Valve actuation requires a separate pressurized, dry air at 55 psi.
4. If you have not requested option 305 (pre-plumbed GC), you must supply pre-cleaned, 1/8-inch copper tubing and a variety of 1/8-inch Swagelok® fittings to connect the GC to inlet and detector gas supplies.

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Other Requirements

Your Agilent 7890 GC comes with an analytical column: 19091J-413 (HP5, 30 meter, 0.32mm x 0.25µm). Our checkout standards are designed to work with this column. In many cases, you will need to select a different column for your application. Refer to <http://www.chem.agilent.com/cag/cabu/gccolchoose.htm> for information on column selection. Refer to <http://www.chem.agilent.com/cag/cabu/gcreflib.htm> for topics including: guard columns, retention gaps, conditioning, and method development.

Tools and Consumables Supplied with your GC

Tool or consumable	Used for
Inlet wrench for Turn Top - Split/Splitless and Multimode Inlets only.	Replacing inlet septa and liners
¼-inch nut driver - FID Only	FID/NPD jet replacement
¼-inch X 5/16 inch wrenches	Column Installation
FID flow measuring insert	FID troubleshooting
Ceramic wafer column cutter	Column installation
1/8-inch nuts & ferrules, Swagelok, brass	Connect gas supplies
Inlet septa appropriate for type	Injection port seal
Inlet insert or liner	Injection port
Capillary Column Ferrules - Graphite	Column installation
2 Capillary Column Nuts	Column installation
2 Column Hangers	Column installation
Gas ID Labels	For Labeling Gas Supply Tubing to Inlets and Detectors
LAN Cable	Communication to the GC

Recommended Tools for GC Maintenance

Tool	Used for
GC Tool Kit - 5182-3456	Basic Tools in a zipper tool bag (Included with the Installation Kit Part Number 19199M)
ECD/TCD Detector plug, 5060-9055	Inlet pressure decay test.
Digital flow meter 220-1170	Verifying flows, checking for leaks and plugs.
Electronic gas leak detector - G3388B	Pin pointing gas leaks. Safety checks when using Hydrogen.
T10 Torx driver - 5182- 3466 T20 Torx driver - 5182- 3465	Remove FID Collector. Remove covers to access EPC modules, traps. Replace NPD Bead.
Tubing cutter for 1/8-inch Copper and 1/16 inch Stainless Steel. - 5190-1442	Cut gas supply tubing
Assorted wrenches: ¼, 3/8, 7/16, 9/16 inch	Gas supply and plumbing fittings.
Electric vial crimper - 5190-3188-P	Assure consistently air tight vial closure no matter who does the crimping.

**7890 Series GC Site Preparation Checklist****Recommended Supplies for GC Maintenance**

First time GC users should consider stocking the following supplies to maintain their system. Please refer to the Agilent Consumables and Supplies Catalog for part numbers and recommended maintenance periods or visit <http://www.chem.agilent.com/en-US/Promotions/pages/catalog.aspx>

Supply	Used for
Inlet supplies	Septa, O-rings, liners, adapter, and seals
Inlet PM kits	Kits with individual parts needed to maintain an inlet.
Column supplies	Nuts, ferrules, adapters, guard columns, retention gaps
Detector supplies	Jets, beads, liners, adapters, cleaning kits
Application supplies	Standards, columns, syringes
Sampler supplies	Vials, caps, electronic crimpers, and syringes.

Autosampler Hardware from Older Systems

If you previously purchased samplers and would like to use these on your new GC, the samplers may need firmware updates. Sampler models that are compatible include: 7683A and 7693A ALS; and 7694B and 7697A Headspace Samplers.

This information is subject to change. For more details on software and hardware compatibility, please contact your sales representative.

Important Customer Web Links

- ☐ For additional information about our solutions, please visit our web site at <http://www.chem.agilent.com/en-US/Pages/HomePage.aspx>
- ☐ Need to get information on your product?
Literature Library - <http://www.agilent.com/chem/library>
- ☐ Need to know more?
Customer Education – <http://www.agilent.com/chem/education>
- ☐ Need technical support, FAQs? – <http://www.agilent.com/chem/techsupp>
- ☐ Need supplies? – <http://www.agilent.com/chem/supplies>

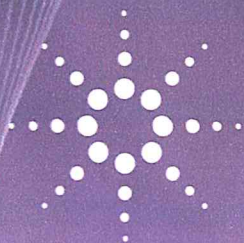
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7890 Series GC Site Preparation Checklist

Document Control Logs

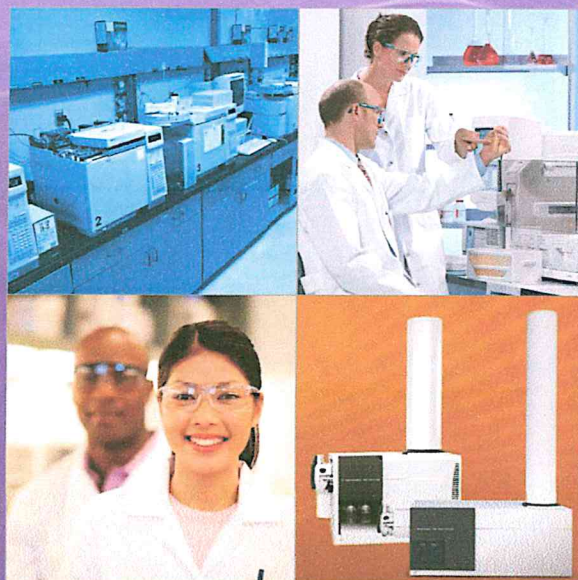
Accessible in master document only.



Agilent Value Promise

OUR INSTRUMENTS LAST FOR YEARS OUR COMMITMENT LASTS FOREVER

The Measure of Confidence



Agilent Technologies

MAXIMIZE YOUR INSTRUMENT INVESTMENT

Plan to optimize

Through the years, you've trusted Agilent Technologies to provide the instrumentation, supplies, and support needed to keep your lab running at peak performance. As each of your instruments reach the end of its useful life and as technology applications evolve, you can continue looking to Agilent to maximize the longevity of your initial investment. Let Agilent help ensure that your lab is always running at its highest level of efficiency and productivity. Plan to optimize your assets with our timely and cost-effective transition solutions.

Promising 10 years of value



The Agilent Value Promise reflects utmost confidence in our unrivaled industry standards for quality system design and manufacturing. From the date you purchase select instruments from our leading Agilent chromatography, spectrometry, and spectroscopy

product lines, our Value Promise guarantees at least 10 years' use or residual-value credit towards a replacement model upgrade. Because we stand behind our systems, our Value Promise maximizes your return on investment by assuring your purchase is safe.

Plan a smooth transition

Long before your instrument's end-of-production date, Agilent is helping you smoothly transition by taking full advantage of our fixed-cost, multi-year support agreements for continuous support, service, and supplies, and by planning to move to the latest technology. With our wide variety of cost-effective program options, we work to meet your specific support and system requirements throughout each lifecycle. During current production, you can rely on Agilent's highly-rated support to maximize your assets. When your system reaches its end-of-production date you can expect uninterrupted support and parts, as well as a clear and strategic path to the most cost-effective transition options for optimal performance. All the while, our 10-year Value Promise stays in force to ensure your lab gets the most for its budget.

Agilent's first concern is helping you maintain optimal instrument uptime so your lab can be competitively efficient and profitable. Let our range of service options and technology transition solutions protect your investment.

Mike McMullen

Senior Vice President & President Chemical Analysis Group

A PROVEN PARTNER FOR YOUR SUCCESS

At Agilent, we look for ways to optimize your lab's performance by enhancing our 45 years of measurement solutions expertise with constant customer communication. That is why you can rely on us to provide the tools you need. Proudly, the Agilent name has become the assurance of unequalled dependability, reliability, ease of use, and enhanced productivity because we rigorously design, test and manufacture our comprehensive array of instruments, supplies, and services to the highest standards. We become your experienced partner delivering unrivaled systems, solutions, technical support, and education to help your lab increase efficiency and profit.

Plan for uninterrupted lab operation

As your instrument is phased out of production, trust the Agilent support process—from our Service Guarantee to our Value Promise. By informing you along the way, we keep you ahead of the curve in managing the lifetime of your instrument.

AGILENT VALUE PROMISE - 10 YEARS

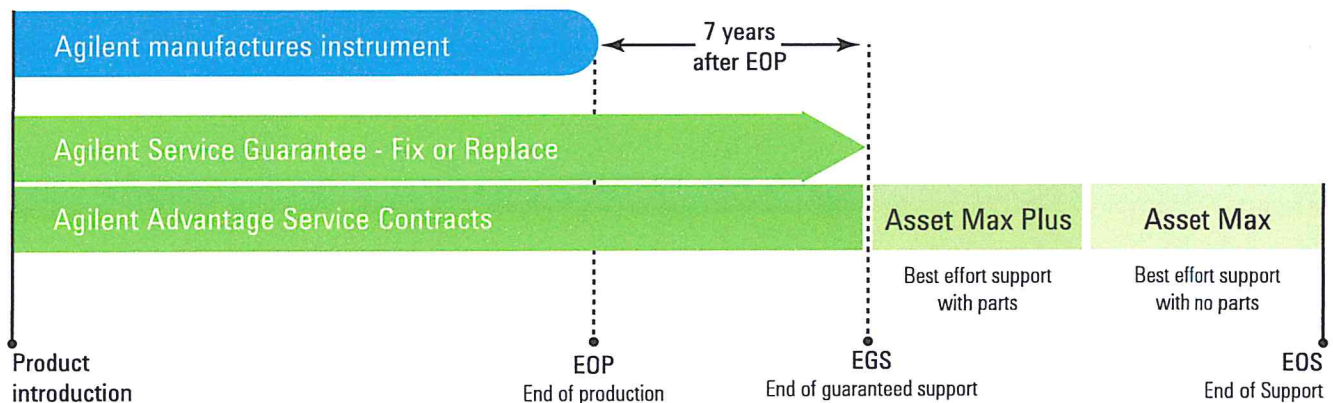
The Agilent Value Promise guarantees you at least 10 years of use of your new instrument, from the date of purchase, or we will credit you with the residual value of that system when you upgrade to a replacement model¹.

AGILENT SERVICE GUARANTEE

If you are under an Agilent Advantage contract and a hardware problem cannot be solved immediately, a formal escalation process ensures that key technical and management resources quickly attend to your issue. If this process does not resolve the hardware issue, we will replace your analytical instrument for free. This escalation process exemplifies how Agilent is committed to keeping your lab up and running, no matter what.

Purchase of Instrument

Agilent Value Promise - 10 years of usable life



¹ Applies to current generation Agilent instruments not being used in highly corrosive and bio-hazardous environments

Contact Us

Learn more:

agilent.com/chem/value

Find an Agilent Customer Center
in your country:

agilent.com/chem/contactus



An Agilent Service contract guarantees repair of your instrument or we replace it for free.

Information, descriptions, and specifications in this publication are subject to change without notice.

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Published in USA, October 15, 2012
5991-1491EN



Agilent Technologies

DATE: 6/22/2016

Page: 5

BID NO.: 50-00116919

BID FORM
Non Public Works

All Public Work Projects are required to use the Louisiana Uniform Public Work Bid Form

All prices must be held firm unless an escalation provision is requested in this bid. Jefferson Parish will allow one escalation during the term of the contract, which may not exceed the U.S. Bureau of Labor Statistics National Index for all Urban Consumers, unadjusted 12 month figure. The most recently published figure issued at the time an adjustment is requested will be used. A request must be made in writing by the vendor, and the escalation will only be applied to purchases made after the request is made.

Are you requesting an escalation provision?

YES _____ NO X

MAXIMUM ESCALATION PERCENTAGE REQUESTED _____%

INITIAL BID PRICES WILL REMAIN FIRM THROUGH THE DATE OF _____.

For the purposes of comparison of bids when an escalation provision is requested, Jefferson Parish will apply the maximum escalation percentage quoted by the bidder to the period to which it is applied in the bid. The initial price and the escalation will be used to calculate the total bid price. It will be assumed, for comparison of prices only, that an equal amount of material or labor is purchased each month throughout the entire contract.

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES

2-3 weeks

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable)

N/A

THIS SECTION MUST BE COMPLETED BY BIDDER:

FIRM NAME: Q A GROUP LLC dba Quantum Analytics

ADDRESS: 3400 East Third Ave

CITY, STATE: Foster City CA ZIP: 94404

TELEPHONE: (650) 312-0900 FAX: (650) 312-0303

EMAIL ADDRESS: gyoutsey@LQA.com / rwilson@LQA.com

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: _____

NUMBER: _____

NUMBER: _____

NUMBER: _____

TOTAL PRICE OF ALL BID ITEMS: \$ 49,192-90

AUTHORIZED SIGNATURE: 

Michael D'Amico

Printed Name

TITLE: Vice President / Operations

SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the BID NUMBER and BID OPENING DATE indicated on the outside of the envelope submitted to the Purchasing Department.

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00116919

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	1.00	EA	<p>A ONE-TIME PURCHASE AND INSTALLATION OF A GAS CHROMATOGRAPH AND AUTOSAMPLER FOR THE JEFFERSON PARISH DEPARTMENT OF WATER, WATER LAB</p> <p>0010 - AGILENT G3440B, 7890B GAS CHROMATO-GRAPH CUSTOM,</p> <p>INCLUDES: LAN INTERFACE, 7693 INTERFACE, 20-RAMP OVEN PROGRAMMING, 6 HEATED ZONES, 2 ANALOG OUT, KEYBOARD AND DISPLAY PRESSURE SETPOINTS TO 0.001 PSI WITH THE FOLLOWING CONFIGURATION: CAPILLARY SPLIT/SPLITLESS INLET WITH ELECTRONIC PNEUMATICS CONTROL (EPC), MICRO ELECTRON CAPTURE DETECTOR WITH EPC, FACTORY PLUMBING FOR QUICK INSTALLATION, OVEN EXHAUST DEFLECTOR</p> <p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p> <p>INSTRUMENT MUST WORK WITH EXISTING SOFTWARE ANALYSIS PACKAGE</p>	\$33,370 ⁻⁹⁰	\$33,370 ⁻⁹⁰
2	1.00	EA	<p>0020 - AGILENT G4513A, 7693A AUTOINJECTOR</p> <p>INCLUDES: TRANSFER TURRET, 16-SAMPLE TURRET, MOUNTING POST, PARKING POST FOR GC, 10 UL SYRINGE, AND SOLVENT BOTTLES.</p> <p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p>	\$7,039 ⁻⁸⁰	\$7,039 ⁻⁸⁰
3	1.00	EA	<p>0030 - AGILENT G4514A, 7693 TRAY, 150 VIAL INCLUDES 3 REMOVABLE</p> <p>50 VIAL RACKS AND GC MOUNTING BRACKET</p> <p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p>	\$8,278 ⁻²⁰	\$8,278 ⁻²⁰
4	1.00	EA	<p>0040 - AGILENT 123-5631, DB-5.625 COLUMN, 30 M, 0.32 MM, 0.25 UM</p> <p>*****</p> <p>INSTRUMENT WILL BE USED FOR THE ANALYSIS OF FEDERALLY REGULATED DISINFECTION BY- PRODUCTS IN DRINKING WATER.</p> <p>INSTRUMENT MUST BE COMPATIBLE WITH EXISTING AGILENT SOFTWARE PACKAGE THAT CONTROLS THE INSTRUMENT ITSELF.</p>	\$504 ⁻⁰⁰	\$504 ⁻⁰⁰

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00116919

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
			<p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATIN AT INSTALLATION</p> <p>INSTALLATION TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING:</p> <p>*ACTUAL SET-UP OF THE INSTRUMENT</p> <p>*INSTALL OF THE VARIOUS COMPONENTS SUCH AS: THE COLUMN AND THE AUTOSAMPLER</p> <p>*VENDOR TO ENSURE THAT THE INSTRUMENT COMMUNICATES TO EXISTING SOFTWARE PACKAGE</p> <p>*SET-UP OF THE METHOD FOR THIS PARTICULAR ANALYSIS WITHIN THE SOFTWARE</p> <p>*VENDOR TO ASSEMBLE COMPONENTS ON/IN THE NEW INSTRUMENT BEFORE USE</p> <p>*****</p>		

CORPORATE RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF
QA Group, LLC DBA Quantum Analytics

INCORPORATED.

AT THE MEETING OF DIRECTORS OF QA Group, LLC
INCORPORATED, DULY NOTICED AND HELD ON June 26, 2016,
A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT
WAS:

RESOLVED THAT Michael D'Amico, BE AND IS HEREBY
APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-
FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON
BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS
AND TRANSACTIONS WITH THE PARISH OF JEFFERSON OR ANY OF ITS AGENCIES,
DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE
EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES,
CONTRACTS AND ACTS AND TO RECEIVE ALL PURCHASE ORDERS AND NOTICES
ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID OR CONTRACT, THIS
CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING, AND ACCEPTING
EACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-
FACT.

I HEREBY CERTIFY THE FOREGOING TO BE
A TRUE AND CORRECT COPY OF AN
EXCERPT OF THE MINUTES OF THE ABOVE
DATED MEETING OF THE BOARD OF
DIRECTORS OF SAID CORPORATION, AND
THE SAME HAS NOT BEEN REVOKED OR
RESCINDED.



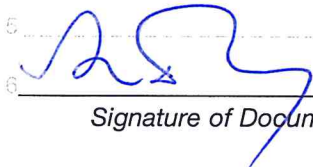
SECRETARY-TREASURER
Neil Kranz

June 26, 2016

DATE

CALIFORNIA JURAT WITH AFFIANT STATEMENT**GOVERNMENT CODE § 8202**☐ See Attached Document (Notary to cross out lines 1-6 below)☒ See Statement Below (Lines 1-6 to be completed only by document signer[s], *not* Notary)

1 I, Michael D'Amico am the Vice President, Operations of QA Group LLC dba Quantum
2 Analytics. I am fully authorized to submit a bid in response to Bid
3 Number 50-00116919 to the Parish of Jefferson and as detailed on the
4 Non-Public Works Bid Affidavit for Bid Number 50-00116919, verify that in line
5 with the Campaign Contribution Disclosures and Debt Disclosures, QA Group LLC
6 has neither Campaign Contributions or Debts which would require disclosure
under the sections outlined in the Parish Affidavit.

5 

Signature of Document Signer No. 1

Signature of Document Signer No. 2 (if any)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of SAN MATEO

Subscribed and sworn to (or affirmed) before me

on this 27 day of JUNE, 2016,
by _____ Date Month Year(1) MICHAEL D'AMICO(and (2) _____),
Name(s) of Signer(s)proved to me on the basis of satisfactory evidence
to be the person(s) who appeared before me.Signature M. Evans
Signature of Notary PublicSeal
Place Notary Seal Above**OPTIONAL**

Though this section is optional, completing this information can deter alteration of the document or
fraudulent reattachment of this form to an unintended document.

Description of Attached DocumentTitle or Type of Document: Affidavit Document Date: N/ANumber of Pages: 3 Signer(s) Other Than Named Above: N/A

Non-Public Works Bid

AFFIDAVIT

STATE OF _____

PARISH/COUNTY OF _____

BEFORE ME, the undersigned authority, personally came and appeared: _____
_____, (Affiant) who after being by me duly sworn, deposed and said that
he/she is the fully authorized _____ of _____ (Entity),
the party who submitted a bid in response to Bid Number _____, to the Parish of
Jefferson.

Affiant further said:

Campaign Contribution Disclosures

(Choose A or B, if option A is indicated please include the required attachment):

Choice A _____ Attached hereto is a list of all campaign contributions, including the date and amount of each contribution, made to current or former elected officials of the Parish of Jefferson by Entity, Affiant, and/or officers, directors and owners, including employees, owning 25% or more of the Entity during the two-year period immediately preceding the date of this affidavit or the current term of the elected official, whichever is greater. Further, Entity, Affiant, and/or Entity Owners have not made any contributions to or in support of current or former members of the Jefferson Parish Council or the Jefferson Parish President through or in the name of another person or legal entity, either directly or indirectly.


Choice B ☒ there are NO campaign contributions made which would require disclosure under Choice A of this section.

PURSUANT TO
CALIFORNIA
NOTARY LAW
PLEASE REFER
TO ATTACHED
CALIFORNIA
JURAT ~~STATE~~
WITH AFFIAN
STATEMENT

Debt Disclosures

(Choose A or B, if option A is indicated please include the required attachment):

Choice A _____ Attached hereto is a list of all debts owed by the affiant to any elected or appointed official of the Parish of Jefferson, and any and all debts owed by any elected or appointed official of the Parish to the Affiant.

Choice B  _____ There are **NO** debts which would require disclosure under Choice A of this section.

Affiant further said:

That Affiant has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for Affiant; and

[The remainder of this page is intentionally left blank.]

That no part of the contract price received by Affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for Affiant.



Signature of Affiant

Michael D'Amico

Printed Name of Affiant

SWORN AND SUBSCRIBED TO BEFORE ME

ON THE _____ DAY OF _____, 20__.

Notary Public

Printed Name of Notary

Notary/Bar Roll Number

My commission expires _____.

PURSUANT TO CALIFORNIA
NOTARY LAW - PLEASE
REFER TO ATTACHED
CALIFORNIA JURAT WITH
AFFIANT STATEMENT

INSURANCE REQUIREMENTS - BIDS

All insurance requirements shall conform to Jefferson Parish Resolution No. 113646 or No. 113647. The contractor shall not commence work under this contract until he has obtained all insurance and complied with the requirements of the specifications and said Parish Resolutions. Except as otherwise provided by law, the Parish Attorney's Office with the concurrence of the Director of Risk Management is authorized to omit in whole or part the insurance requirements of this section in connection with contracts. Vendors inquiring about this shall submit his written request to the Purchasing Department prior to the due date of the bid. Contractor must deliver and maintain such insurances as provided; failure to do so shall be grounds for suspension, discontinuation or termination of the contract.

Successful bidder will be required to procure standard insurance policies evidencing Parish mandated insurance requirements indicated below. The current certificate of insurance must be submitted by low bidder within 10 days after bid opening to the Purchasing Department. Failure to comply will cause bid to be rejected.

1. WORKER'S COMPENSATION INSURANCE

As required by Louisiana State Statute, exception; Employer's Liability, Section B shall be \$1,000,000 per occurrence when Work is to be over water and involves maritime exposures to cover all employees not covered under the State Worker's Compensation Act, otherwise this limit shall be no less than \$500,000 per occurrence.

2. COMMERCIAL GENERAL LIABILITY

Shall provide limits not less than the following: \$1,000,000.00 Combined Single Limit per Occurrence for bodily injury and property damage.

3. COMPREHENSIVE AUTOMOBILE LIABILITY

Bodily injury liability \$1,000,000.00 each person; \$1,000,000.00 each occurrence.
Property Damage Liability \$1,000,000.00 each occurrence.

DEDUCTIBLES

No insurance required shall include a deductible not greater than \$10,000.00. The cost of the deductible shall be borne by the contractor.

NOTE: If the vendor requires a change in deductibles, the request must be submitted in writing to the Purchasing Department prior to the due date of the bid. Such request shall be reviewed by the Parish Attorney's Office.

UMBRELLA LIABILITY COVERAGE

An umbrella policy or excess may be used to meet minimum requirements.

CONSTRUCTION AND RENOVATION PROJECTS:

Unless otherwise specified in the bid, these additional insurance is required. Such insurance is due upon contract execution.

OWNER'S PROTECTIVE LIABILITY

To be for the same limits of liability for bodily injury and property damage liability established for commercial general liability.

BUILDER'S RISK INSURANCE

The contractor shall maintain Builder's Risk Insurance at his own expense to insure both the owner (Parish of Jefferson) and contractor as their interest may appear.

NOTE for CERTIFICATE HOLDER:

All insurance certificates shall list the certificate holder as follows:

"The Parish of Jefferson, its Districts, Departments and Agencies under the direction of the Parish President and the Parish Council." Additionally, the address on the Certificates should reflect the department which is letting the bid and reference the respective bid number.

Revised 2.10.2014

ACORD™

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

6/29/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER USI Southwest Three Memorial City 840 Gessner, Suite 600 Houston, TX 77024	CONTACT NAME: Jo Doan PHONE (A/C, No, Ext): 713 490-4710 FAX (A/C, No): 713-490-4700 E-MAIL ADDRESS: jo.doan@usi.biz																					
INSURED QA Group, LLC DBA Quantum Analytics 3400 East Third Ave Foster City, CA 94404	<table border="1"> <tr> <th colspan="2">INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr> <tr> <td>INSURER A :</td><td>Travelers Prop Cas. Co. of Amer</td><td>25674</td></tr> <tr> <td>INSURER B :</td><td></td><td></td></tr> <tr> <td>INSURER C :</td><td></td><td></td></tr> <tr> <td>INSURER D :</td><td></td><td></td></tr> <tr> <td>INSURER E :</td><td></td><td></td></tr> <tr> <td>INSURER F :</td><td></td><td></td></tr> </table>	INSURER(S) AFFORDING COVERAGE		NAIC #	INSURER A :	Travelers Prop Cas. Co. of Amer	25674	INSURER B :			INSURER C :			INSURER D :			INSURER E :			INSURER F :		
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INSURER F :																						

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC			ZLP15S958901	07/01/2015	07/01/2016	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 \$
A	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS			BA1G19187215	07/01/2015	07/01/2016	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$0			ZUP61M356181	07/01/2015	07/01/2016	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000 \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	HJUB1G19522015	07/01/2015	07/01/2016	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Certificate Holder Continues: its Districts, Departments and Agencies under the direction of the Parish President and the Parish Council
 RE: Bid #50-00116919, Jefferson Parish Resolution #113646 or #113647.

The Certificate Holder is included as an Additional Insured under the Blanket Additional Insured (See Attached Descriptions)

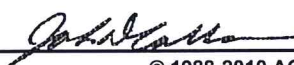
CERTIFICATE HOLDER

CANCELLATION

The Parish of Jefferson,
 Jefferson Parish Purchasing Department
 200 Derbigny Street
 General Government Building, Suite 4400
 Gretna, LA 70053

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



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DESCRIPTIONS (Continued from Page 1)

endorsement on the General Liability on a primary and non-contributory basis, when required by written contract.

The Certificate Holder is included as an Additional Insured under the Blanket Additional Insured endorsement on the Auto Liability on a primary and non-contributory basis, when required by written contract.

A Waiver of Subrogation in favor of the Certificate Holder is provided by the Blanket Waiver endorsement on the General Liability, Auto and Workers Compensation policies, when required by written contract.

Worker's Compensation includes Stop Gap Coverage for the following states:ND OH WA WY

The Workers Compensation policy includes a Blanket Alternate Employer Endorsement and Voluntary Compensation.

The Umbrella policy is follow form over the General Liability, Automobile Liability and Employer's Liability policies.

Subject to policy terms, conditions and exclusions.

Client#: 1265227

QAGRO1

ACORD™

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

6/29/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER USI Southwest Three Memorial City 840 Gessner, Suite 600 Houston, TX 77024		CONTACT NAME: Jo Doan PHONE (A/C, No, Ext): 713 490-4710 FAX (A/C, No): 713-490-4700 E-MAIL ADDRESS: jo.doan@usi.biz	
INSURED QA Group, LLC DBA Quantum Analytics 3400 East Third Ave Foster City, CA 94404		INSURER(S) AFFORDING COVERAGE INSURER A: Travelers Prop Cas. Co. of Amer	NAIC # 25674
		INSURER B:	
		INSURER C:	
		INSURER D:	
		INSURER E:	
		INSURER F:	

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

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INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC		ZLP15S958901	07/01/2015	07/01/2016	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 \$
A	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS		BA1G19187215	07/01/2015	07/01/2016	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$0		ZUP61M356181	07/01/2015	07/01/2016	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000 \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input checked="" type="checkbox"/> Y/N <input checked="" type="checkbox"/> N/A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		HJUB1G19522015	07/01/2015	07/01/2016	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)


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CERTIFICATE HOLDER

CANCELLATION

The Parish of Jefferson, Jefferson Parish Purchasing Department 200 Derbigny Street General Government Building, Suite 4400 Gretna, LA 70053	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
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DESCRIPTIONS (Continued from Page 1)

endorsement on the General Liability on a primary and non-contributory basis, when required by written contract.

The Certificate Holder is included as an Additional Insured under the Blanket Additional Insured endorsement on the Auto Liability on a primary and non-contributory basis, when required by written contract.

A Waiver of Subrogation in favor of the Certificate Holder is provided by the Blanket Waiver endorsement on the General Liability, Auto and Workers Compensation policies, when required by written contract.

Worker's Compensation includes Stop Gap Coverage for the following states:ND OH WA WY

The Workers Compensation policy includes a Blanket Alternate Employer Endorsement and Voluntary Compensation.

The Umbrella policy is follow form over the General Liability, Automobile Liability and Employer's Liability policies.

Subject to policy terms, conditions and exclusions.

**Request for Taxpayer
Identification Number and Certification**

Give Form to the
requester. Do not
send to the IRS.

Name (as shown on your income tax return):
QA Group, LLC

Business name/disregarded entity name, if different from above:
Quantum Analytics

Check appropriate box for federal tax classification:
☐ Individual/sole proprietor ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate
☒ Limited liability company. Enter the tax classification (C=S corporation, S=S corporation, P=partnership) **C** ☐ Exempt payee
☐ Other (see instructions)

Address (number, street, apt. no., or suite no.):
3400 EAST THIRD AVENUE

City, state, and ZIP code:
Foster City, CA 94404

List account number(s) here (optional):

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see How to get a TIN on page 3.

Note: If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number								


Employer identification number								
9	4		3	4	0	2	7	4

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
- I am a U.S. citizen or other U.S. person (defined below).

Certification instructions: You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real-estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here: Signature of U.S. person  Date: **08/28/2014**

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

#28495

Entered
8/28/14
law



Bid Number 50-00116919

**A ONE-TIME PURCHASE AND INSTALLATION OF A GAS
CHROMATOGRAPH AND AUTOSAMPLER FOR THE JEFFERSON PARISH
DEPARTMENT OF WATER, WATER LAB**

BID DUE: July 7, 2016 / 2:00 PM

ATTENTION VENDORS!!!

**Please review all pages and respond accordingly, complying with all provisions
in the technical specifications and Jefferson Parish Instructions for Bidders and
General Terms and Conditions. All bids must be received in the Purchasing
Department by the bid due date and time.**

**Jefferson Parish Purchasing Department
200 Derbigny Street
General Government Building, Suite 4400
Gretna, LA 70053
Buyer: Melissa Ovalle
Buyer Email: movalle@jeffparish.net
Buyer Phone #: 504-364-2687**

Agilent 7890B GC Bid Specifications

Model/ option	Specification	Description	Justification
G3440B	Retention time performance	Retention time repeatability: < 0.008% or < 0.0008 min * Area repeatability < 1% RSD * * 2ng tetradecane, using 7890A, ALS, Agilent datasyssem	Precise retention time and area reproducibility are the basis for all qualitative and quantitative chromatographic measurements
G3440B	GC Configuration	Must support simultaneously: - two inlets - three detectors - four detector signals	Multiple inlets/detectors offer flexibility in configuration for a wide variety of analyses
G3440B	EPC Modules/ EPC Channels	Must be able to install up to six EPC modules can be installed, providing control of up to 16 channels of EPC	Allows maximum flexibility in configuring GC for a wide variety of applications.
G3440B	Inlet, Aux and PCM EPC Modes	Must provide, when used with capillary columns, four column flow control modes: constant pressure, ramped pressure (3 ramps), constant flow, or ramped flow (3 ramps). Column average linear velocity is calculated.	The ability to program the flow provides another means to speed up the analysis when limited by temperature. Allows guard column backflushing to begin during the run by programming the auxiliary flow.
G3440B	LAN	The LAN interface must allow real-time monitoring of the GC when it is connected with monitoring & diagnostic sSoftware, even when also connected to a data system	Enables simultaneous real-time monitoring of GC, even during operation
G3440B	Counters Software for GC	GC must provide software that monitors GC counters and provides graphic display. Also must provide a real-time notification via indicator/advisory when a counter limit has been reached.	Enables user to have access to a counters in a graphical manner with automatic notifications
G3440B	Set point control	Must provide set point control from the local keyboard or via a networked data system.	Stand-alone control allows use of GC with analog signal data analysis systems. Setpoints can be adjusted at the instrument if the networked system is not nearby.
G3440B	Automation control and clock time programming	Must provide automation control from the local keyboard or via a networked data system. Must provide clock-time programming initiated from the front panel to initiate events (on/off, method start, etc.) at a future date and time.	Local operation allows valved and/or ALS injections to be used. Sequences run from the keyboard allow automation when data analysis system does not provide it. Local clock time programming allows operations such as blank runs to be scheduled by day of the week. The same type of operations is also available from networked data system control.
G3440B	Run time deviation log	Must provide a run time deviation log created for each analysis	Ensures that all method parameters were achieved and maintained.
G3440B	Display of all GC set points at the GC or data system.	Must provide display of all GC and automatic sampler set points at the GC or data system via English or Chinese characters on GC display	Easy user interface
G3440B	Operating temperature range	Oven operating range must be from Ambient temperature +4 °C to 450 °C.	Wide temperature range necessary for flexibility in method development.
G3440B	Temperature set point resolution	Oven temperature set point resolution must be 0.1 °C.	Provides better support of faster methods using method translation.

G3440B	Oven ramps/plateaus	Oven must support 20 oven ramps with 21 plateaus. Negative ramps are allowed.	Multiple temperature ramps necessary for flexibility in method development.												
G3440B	Oven ramp rates	Maximum achievable Temperature ramp rates: 120 °C/min (120 V units are limited to 75°C/min)	Fast GC increases lab productivity. – fast cool down reduces cycle time without method modification												
G3440B	Fast oven ramp rates (single channel GC operation,	Must be able to achieve the following ramp rates for single channel GC operation: - high power (>200volts, >15 amps) and oven insert allowed): <table><tr><td>Temp Range (°C)</td><td>Ramp Rate (°C/min)</td></tr><tr><td>50 to 70</td><td>120</td></tr><tr><td>70 to 115</td><td>120</td></tr><tr><td>115 to 175</td><td>110</td></tr><tr><td>175 to 300</td><td>80</td></tr><tr><td>300 to 450</td><td>65</td></tr></table>	Temp Range (°C)	Ramp Rate (°C/min)	50 to 70	120	70 to 115	120	115 to 175	110	175 to 300	80	300 to 450	65	Allows for fast GC methods
Temp Range (°C)	Ramp Rate (°C/min)														
50 to 70	120														
70 to 115	120														
115 to 175	110														
175 to 300	80														
300 to 450	65														
G3440B	Oven cool down	Oven cool down (22 °C ambient) 450 to 50 °C in 4.0 min (3.5 min with oven insert accessory)	Fast cool down time allows for overall fast cycle time												
G3440B	Ambient temperature rejection	Oven must have ambient rejection: < 0.01 °C per 1 °C.	Reduces the influence of the ambient temperature on retention time repeatability.												
G3440B	Oven power safety	Oven power must turn-off automatically when the lid/door is opened.	User must be protected from high oven heat when door is opened.												
G3440B	Gas supply shutoff	An automatic carrier shutoff, if the inlet pressure drops significantly, must be built-in	Low pressure indicates that there is insufficient gas for the chromatographic run to be valid, protects against gas loss in case of leaks												
G3440B	Pneumatics	Pneumatics must be electronic and programmable.	Precise pneumatic control is a key component to retention time and area repeatability. Programmability allows automation using methods with different pressure and flow set points.												
G3440B	Pneumatics	Each EPC unit is optimized for its intended use with a specific inlet and detector option.	No unneeded parts to effect complexity and reliability. Components are chosen to optimize stability in the normal operating range of each specific inlet or detector. This leads to better retention time and area repeatability.												
G3440B	Inlet Pneumatics	Inlet must have Electronic pneumatic control of carrier, split and septum purge gases, including electronic ON/OFF	Electronic pressure control allows greater flexibility of operation than manual controls. Full method documentation. Programming of inlet pressure can minimize sample degradation and improve efficiency of sample transfer to the column. Reduces the influence of environmental factors retention time repeatability. Methods remain stable when atmospheric pressure changes. Methods at sea level and high elevations give the same results.												
G3440B	Compensation for barometric pressure and ambient temperature changes is standard	Compensation for barometric pressure and ambient temperature changes must be standard.													
G3440B	Pressure setpoint precision and control	Pressure set points must be able to be adjusted by increments of 0.001 psi, with typical control ± 0.001 for the range 0.000 to 99.999 psi; 0.01 psi for the range 100.00 psi to 150.00 psi	Leads to more precise translation of methods and retention time locking precision. This is especially important for methods requiring low column head pressure.												

G3440B	Pressure/flow ramps	User must be able to set up to a maximum of three Pressure/flow ramps in addition to injecting at a different (pulsed) pressure	Constant flow or pressure provide consistent efficiency, but additional ramps can be used to decrease retention times after column temperature limit is reached or to elute unimportant late eluting peaks faster.
G3440B	Carrier and makeup gas settings	User must be able to select carrier and makeup gas types. Carrier types supported are He, H ₂ , N ₂ , and argon/methane. Makeup gas types available are detector specific	This allows column flow to be controlled with the user's preferred carrier gas. This is required because of the differences in the gases' viscosities
G3440B	Temperature coefficient drift	Electronic pneumatic control must have a temperature coefficient : ≤ ± 0.01 psi/°C, Drift: ≤ ± 0.1 psi/6 months.	Reduces the influence of environmental factors retention time and area repeatability.
G3440B	Flow sensors	Flow sensors must have specification for Accuracy: ≤ ± 5% depending on carrier gas, Repeatability: ≤ ± 0.35% of setpoint, normal temperature and pressure (NTP)* per °C for He or H ₂ ; ≤ ± 0.05 mL/min NTP per °C for N ₂ or Ar/CH ₄ .	Enables better instrument repeatability and instrument to instrument precision.
G3440B	Flow/pressure setpoints display/control	Flow/pressure setpoints via GC or Agilent ChemStations	Allows setpoints to be displayed/controlled via Agilent devices per user preference.
G3440B	Constant flow mode	Constant flow mode must be available	Flow decreases with increasing oven temperature if only constant pressure mode is available. This leads to increased retention times
G3440B	Mass Flow Sensors	Split/splitless, and PTV inlets must have mass flow sensors for the control of flow to inlet	Mass flow sensors provide best dynamic range of flow and pressure control. High flow rates are available even when the column pressure is low.
G3440B	S/SL and PTV inlets ratios set electronically	S/SL and PTV inlets must allow the split ratio to be set electronically Split flow and split ratio are calculated from total flow and calculated column and calibrated septum purge flows	Convenience of method setup, accuracy of split ratio
G3440B	Inlet modules Pressure sensors	Accuracy: ≤ ± 2% full scale, Repeatability: ≤ ± 0.05 psi, Temperature coefficient : ≤ ± 0.01 psi/°C, Drift: ≤ ± 0.1 psi/6 months.	Retention time repeatability and precision.
G3440B	Inlet modules Flow sensors	Accuracy: ≤ ± 5% depending on carrier gas, Repeatability: ≤ ± 0.35% of setpoint, normalized temperature and pressure (NTP)* per °C for He or H ₂ ; ≤ ± 0.05 mL/min NTP per °C for N ₂ or Ar/CH ₄ .	Retention time repeatability for packed column operation in PP inlet, split ratio stability and accuracy in S/SL inlet.
G3440B	Detector modules	Accuracy: ≤ ± 3 mL/min NTP or 7% of setpoint, Repeatability: ≤ ± 0.35% of setpoint *NTP = 25 °C and 1 atmosphere	Area repeatability because detector response is stable. Instrument to instrument detector reproducibility when flows can be set accurately.
G3440B	Number of inlets installed	Must be able to install up to two inlets	Provides flexibility in configurations for GC applications
G3440B	Inlets available	Must be able to install any of these inlets - Split/splitless capillary inlet (S/SL) - Purged packed injection port (PPIP) - Multimode inlet (MMI) - Temperature-programmable cool on-column (PCOC) - Programmable temperature vaporizer (PTV) - Volatiles inlet (VI)	A wide variety of inlets to suit the user's application
G3440B	Inlet pneumatics SSL	Inlet must have Electronic pneumatic control of carrier, split and septum purge	Electronic pressure control allows greater flexibility of operation than manual

		gases, including electronic ON/OFF	controls. Full method documentation. Programming of inlet pressure can minimize sample degradation and improve efficiency of sample transfer to the column. Choose the column to suit your sample.
G3440B	Capillary column id	Must be suitable for all capillary columns including DB-5.625 column, 30 m, 0.32 mm, 0.25 um	
G3440B	Split ratios allowed SSL	Must allow split ratio setpoint up to 7,500:1	A wide range of available split ratios help avoid column overload.
G3440B	Modes SSL	Must allow these modes and be easily accessible:: - split - splitless mode - Pressure-pulsed splitless mode.	The right mode for every sample is easily selected. Split mode allows the user to introduce the appropriate amount of sample on high resolution capillary columns for analysis (e.g., gasoline analysis). Splitless mode allows for more trace analysis Pressure-pulsed splitless mode can reduce the amount of time spent in the vaporizing inlet, improve early eluting peaks. Pulsed Split is also available. High maximum temperature for flexibility in method development
G3440B	Maximum temperature SSL	Maximum temperature: 400 °C.	
G3440B	EPC Pressure Ranges SSL	EPC available in two pressure ranges: - 0 to 100 psig (0 to 680 kPa) >= 0.200 mm diameter - 0 to 150 psig for columns < 0.200 mm diameter.	Allows the pressure range to be matched to the working pressures required by the column and oven temperature. The smaller diameter columns require a higher maximum pressure for a given temperature. Wider bore columns require the precision at low pressure available when the pressure range is more limited. Agilent optimizes instead of compromises.
G3440B	Gas saver mode SSL	Gas saver mode built in	Reduces gas consumption without compromising performance. (reduces split vent flow at a run-time programmable time, without affecting the column flow, the gas saver mode key will restore the original flow rate) Septum purge helps eliminate "ghost" peaks. Electronic control allows user to set the flow for his septum of choice and the injection parameters required. Changing the split and septum flow without changing the column flow allows for changes in sample concentration without affecting retention times. A wide range for setting total flow enables the widest range of applications.
G3440B	Septum purge SSL	Must have electronic septum purge flow	
G3440B	Purge flow change SSL	Split and septum purge flow can be changed without changing the column flow	
G3440B	Total flow range SSL	Must be able to set total flow range: 0 to 200 mL/min N ₂ 0 to 1,250 mL/min H ₂ or He	
G3440B	Inlet maintenance SSL	Inlet sealing system is built in standard with each S/SL inlet for quick, easy, injector liner changes in under 30 seconds.	Fast, easy inlet maintenance helps minimize instrument downtime
G3440B	Electronic pneumatics control and electronic on/off for all detector	Electronic pneumatics control and electronic on/off for all detector gases.	Electronic pressure control allows greater flexibility of operation than manual controls. Full method documentation. Setting detector pressure/flows can help optimize detector operation and sensitivity.

G3440B	gases Detector Electronic compensation	Detector EPC compensated for atmospheric pressure and temperature variation	Reduces the influence of environmental factors that affect detector performance. Methods and performance remain stable when atmospheric pressure changes. Improves area repeatability. High sensitivity allows smaller amounts of analyte to be detected
G3440B	Sensitivity ECD	Minimum detectable level: 4.5 fg/mL lindane	
G3440B	Linear Dynamic Range ECD	Proprietary signal linearization. Linear dynamic range: $> 5 \times 10^4$ with lindane	A high linear dynamic range allows a wider range of concentrations to be detected in one run. This reduces the number of reinjections necessary, leading to higher lab productivity. It is required for some regulated methods.
G3440B	Data rate ECD	Data acquisition rate: up to 50 Hz	High acquisition rate required for fast chromatography. Data rate fast enough for 100 msec wide (half height) peaks - ^{63}Ni is preferred source of β^- particles. The amount chosen has been optimized for detector performance and safety.
G3440B	Electron source ECD	Uses β^- emission of $< 15 \text{ mCi } ^{63}\text{Ni}$ as the electron source.	
G3440B	Micro cell (anode) design ECD	Must be equipped with hidden anode and high velocity flows.	Minimizes contamination and optimizes sensitivity
G3440B	Maximum temperature ECD	400 °C maximum operating temperature	High temperature necessary to vaporize high boiling compounds
G3440B	EPC control ECD	Standard EPC makeup gas types: argon/5% methane or nitrogen; 0 to 150 mL/min	Electronic pressure control allows greater flexibility of operation than manual controls.
G3440B	EPC atmospheric pressure & temperature variation compensations	EPC atmospheric pressure & temperature variation compensations	Reduces the influence of environmental factors retention time repeatability. Methods remain stable when atmospheric pressure changes. Methods at sea level and high elevations give the same results.
G3440B	EPC Pressure control	Psig (gauge) and psia (absolute) pressure control	Both psig and psia pressure control provide stability in pressure
G3440B	Channels per PCM	2 channels	
G3440B	Maximum	Maximum of 3 PCMs per GC	PCM can be located in either/ both inlet EPC positions, and in either/both auxiliary positions on the back of the 7890B GC. More auxiliary channels of EPC, flow or pressure, provide more flexibility and wider range of potential analyses. Forms a single flow plate
G3440B	CFT- Diffusion bonding	Diffusion bonding	
G3440B	CFT- Small profile	Small profile	For fast thermal response
G3440B	CFT- Projection welded connections	Projection welded connections	For leak-tight fittings
G3440B	CFT- Deactivation	Deactivation of all internal surfaces in the sample path	For sample path inertness
G3440B	Deans Switch Device	Pneumatic 2-dimensional heart-cutting	Deans switching provides additional selectivity using 2-dimensional GC analysis. Peaks of interest that may be

			<p>coeluting on one column are diverted to a separate column of different stationary phase. This technique can also reduce maintenance costs by having troublesome solvents or other components bypass detectors or columns.</p>
G3440B	Purged Effluent Splitters Devices	Pneumatic purged 2-way or 3-way splitter	<p>A 3-way purged effluent splitter sends column effluent to three detectors, even an MSD. More information can be obtained in a single run to help locate target peaks in unknowns. A 2-way purged effluent splitter version is also available.</p>
G3440B	Location of introduction of EPC	EPC can be introduced at any column or restrictor connection	Allows flexibility and versatility in developing methods utilizing capillary flow technology
G3440B	Configuration	Capillary Flow configuration of up to six columns/restrictors	Allows flexibility and versatility in developing methods utilizing capillary flow technology
G3440B	Backflush	GC firmware/software optimized for backflush operation.	Backflush Wizard Software simplifies backflush set-up and operation with the 7890B GC
G3440B	Communication interfaces	<ul style="list-style-type: none"> • LAN • Two analog output channels (1-mV, 1-V, and 10-V output available) as standard • Remote start/stop • Keyboard control of the Agilent Automatic Liquid Sampler (ALS) • Storage of 10 methods • Storage of five ALS sequences • Binary-coded decimal input for a stream selection valve • Serial port interface for Remote Advisor or optional Bar Code Reader 	<p>LAN communication allows network analysis</p>
G3440B	Regulatory for EMC and RFI	Designed and manufactured under a quality system registered to ISO 9001, Declaration of Conformity available.	Tested to conform to industry recognized standards for regulations for emission and susceptibility to electromagnetic interferences
G3440B	ISO 9001	<p>Four internal 24-volt connections (up to 150 mA)</p> <p>Two external 24-volt connections (up to 150 mA)</p> <p>Two on/off contact closures (48 V, 250 mA max)</p>	Designed under industry standard quality system.
G3440B	Connections/contact closures	550 time events via data system. 50 time events via GC keyboard	Flexible capabilities connecting to external devices
G3440B	Timed Events	<p>Support for up to 8 valves:</p> <ul style="list-style-type: none"> - valves 1-4, 12 V DC 13 watt in a heated valve box - valves 5-6, 24 V DC 100 mA unheated, for low power valve applications - Valves 7-8, externally powered as a remote event from separate contact closure 	Large number of available timed events particularly useful for multi-dimensional chromatography
G3440B	Support for up to 8 valves	Independent heated zones, not	Flexible valves allow complex application. Control as part of sample run table

		including oven: six (two inlets, two detectors, and two auxiliary). Third detector as TCD can utilize any available zone from inlet or auxiliary zones.	provides method documentation and precision
G3440B	Heated zones	Maximum operating temperatures for auxiliary zones: 400 °C	Heated zones for inlet, detector and auxiliary zones
G3440B	Maximum operating temperatures for auxiliary zones		High temperature operation for analysis of high boiling sample components

DATE: 6/22/2016

INVITATION TO BID
THIS IS NOT AN ORDER

BID NO.: 50-00116919

JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETNA, LA. 70054-0009
504-364-2678

Page: 1

BUYER: MOVALLE@jeffparish.net

BIDS WILL BE RECEIVED IN THE PURCHASING DEPARTMENT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETNA, LA 70053 UNTIL 2:00 PM, 7/07/2016 AND PUBLICLY OPENED THEREAFTER.

LATE BIDS WILL NOT BE ACCEPTED

Unless submitting via online (see Page 3), each bid must be submitted in a sealed envelope bearing on the outside; the name of the Bidder, his address, and the name of the project for which the bid is submitted and the bid number.

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES SHALL RESULT IN BID REJECTION.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

THE FOLLOWING INSTRUCTIONS APPLY TO ALL BIDS

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law as well be in compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, applicable Jefferson Parish ethical standards and Jefferson Parish Resolution No. 113646 and/or Resolution No. 113647.

All vendors submitting bids must register as a Jefferson Parish vendor if not already yet registered. Bidders may be required to furnish current W-9 Forms and respective Tax Identification Numbers within 10 days after bid opening if such information is not on file or not up to date. Registration forms may be downloaded from www.purchasing.jeffparish.net and clicking on Vendor Information.

All quotations shall be based on F.O.B. Agency warehouse or job site, anywhere within the Parish as designated by the Purchasing Department. This provision does not apply to public works projects

JEFFERSON PARISH requires all products to be new (current) and all work must be performed according to standard practices for the project. Unless otherwise specified, no aftermarket parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least one (1) year guaranty, in writing, from the date of delivery and/or acceptance of the project. Any deviations or alterations from the specifications must be indicated and/or supporting documentation supplied with bid submission.

Bidders should submit all questions in writing and fax them to the Purchasing Department at (504) 364-2693 no later than FIVE (5) working days prior to bid opening. Bid numbers should be mentioned in all requests. Questions may also be emailed to the buyer for this bid at the email address listed above. If submitting online, vendors may send questions via the E-Procurement site no later than Five (5) working days prior to the bid opening.

If this bid requires a pre-bid conference (see Additional Requirements section), bidders are advised that such conference will be held to allow bidders the opportunity to identify any discrepancies in the bid specifications and seek further clarification regarding instructions. The Purchasing Department will issue a written response to bidders' questions in the form of an Addendum. Please note that all official communication will be expressed in the form of an addendum.

All formal Addenda require written acknowledgement on the bid form by the bidder. Failure to acknowledge an Addendum on the bid form shall cause the bid to be rejected. JEFFERSON PARISH reserves the right to award bid to next lowest responsive and responsible bidder in this event.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal. JEFFERSON PARISH WILL ACCEPT ONE BID ONLY FROM EACH VENDOR. Items bid must meet specifications.

Visit our website at [HTTP://PURCHASING.JEFFPARISH.NET](http://PURCHASING.JEFFPARISH.NET)

JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection. Bidders are required to complete, sign and return the bid form and/or complete and return the associated line item pricing forms as indicated. Vendors must not alter the bid forms. Doing so will cause the bid to be rejected.

If the bid exceeds \$30,000.00 and the company is duly authorized to do business in the state of Louisiana, a corporate resolution must be submitted with the bid or the person signing the bid documents must be listed on the Louisiana Secretary of State's website as an officer of the corporation, unless bidder has otherwise complied with LSA-R.S. 38:2212(B)(5). If the bid is in excess of \$30,000 and bidder is registered out of the state of Louisiana, a corporate resolution must be submitted with the bid, unless bidder has otherwise complied with LSA-R.S. 38:2212(B)(5). Failure to comply will cause bid to be rejected; the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event. Bids submitted by Owner or Sole Proprietorships must include certification that he or she owns the entity for which the bid is signed. Sole proprietors submitting bids for public works projects shall within 10 days after bid opening submit sole proprietorship certification.

NOTE: A sample corporate resolution can be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document. A sample certification of sole proprietorship can also be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

A. AWARD OF CONTRACT: JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIVE and RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE. IN THE EVENT OF SPLIT AWARD, THE PURCHASING DEPARTMENT MAY CONTACT VENDORS TO REQUEST REQUIRED AFFIDAVITS. THOSE VENDORS WILL HAVE 10 DAYS FROM THE DATE OF NOTICE TO SUBMIT COMPLETE, SIGNED AND NOTARIZED AFFIDAVITS IN ORIGINAL FORMATS.

All bid prices shall remain valid for 45 days. Jefferson Parish and the lowest responsive and responsible bidder(s) by mutual written consent may mutually agree to extend the deadline for award by one (1) or more extensions of thirty (30) calendar days.

Preference is hereby given to materials, supplies, and provisions produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the state. "LSA-R.S.38:2251-2261"

B. USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

C. CANCELLATION OF CONTRACT: JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at anytime and for any reason by issuing a THIRTY (30) day written notice to the contractor.

For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.

D. PRICES: Jefferson Parish is exempt from paying sales tax under LSA-R.S. 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit of measure specified and unless otherwise specified, shall be exclusive of state and Parish taxes. The price quoted for work shall be stated in figures. In the event there is a difference in unit prices and totals, the unit price shall prevail.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A17.1-1961).

Advertised bids will be tabulated and a copy of the tabulation will be forwarded to each responding bidder.

IN ACCORDANCE WITH STATE REGULATIONS JEFFERSON PARISH OFFERS ELECTRONIC PROCUREMENT TO ALL VENDORS

This electronic procurement system allows vendors the convenience of reviewing and submitting bids online. This is a secure site and authorized personnel have limited read access only. Bidders are encouraged to submit electronically using this free service; while the website accepts various file types, one single PDF file containing all appropriate and required bid documents is preferred. Bidders submitting uploaded images of bid responses are solely responsible for clarity. If uploaded images/documents are not legible, then bidder's submission will be rejected. Please note all requirements contained in this bid package for electronic bid submission.

Please visit the Purchasing Department webpage at <http://purchasing.jeffparish.net> to register and review Jefferson Parish solicitations.

The general specifications for construction projects and the purchase of materials, services and/or supplies are those adopted by the JEFFERSON PARISH Council by Resolution No. 113646 or 113647 dated 12/09/09. The general conditions adopted by this resolution shall be considered as much a part of this document as if they were written wholly herein. A copy may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053. You may also obtain a copy by visiting the Purchasing Department webpage at <http://purchasing.jeffparish.net> and clicking on Online Forms.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

10, 13, 15

1. All bidders must attend the MANDATORY pre-bid conference and will be required to sign in and out as evidence of attendance. In accordance with LSA R.S. 38:2212(I), all prospective bidders shall be present at the beginning of the MANDATORY pre-bid conference and shall remain in attendance for the duration of the conference. Any prospective bidder who fails to attend the conference or remain for the duration shall be prohibited from submitting a bid for the project.
2. Attendance to this pre-bid conference is optional. However, failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. Furthermore, failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification with no additional cost to the owner.
3. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project. Contractor must also hold any and all applicable Federal and State licenses. Contractor shall be responsible for the payment of these permits and shall obtain them prior to the start of the project.
4. A LA State Contractor's License will be required in accordance with LSA R.S. 37-2150 et. seq. and such license number will be shown on the outside of the bid envelope. Failure to comply will cause the bid to be rejected. Additionally if submitting the bid electronically, then the license number must be entered in the appropriate field in the Electronic Procurement system. Failure to comply will cause the bid to be rejected.
5. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
6. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

7. **PUBLIC WORKS BIDS:** All awards for public works in excess of \$5,000.00 will be reduced to a formal contract which shall be recorded at the contractor's expense with the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. A price list of recordation costs may be obtained from the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 will require both a performance and a payment bond. Unless otherwise stated in the bid specifications, the performance bond requirements shall be 100% of the contract price. Unless otherwise state in the bid specifications, the payment bond requirements shall be 100% of the contract price. Both bonds shall be supplied at the signing of the contract.
8. **NON-PUBLIC WORKS BIDS:** A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The performance bond shall be supplied at the signing of the contract.
9. **NON-PUBLIC WORKS BIDS:** A payment bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The payment bond shall be supplied at the signing of the contract.
10. Unless otherwise stated in the bid specifications, the successful bidder will be required to procure standard insurance policies evidencing Parish-mandated insurance requirements as indicated on the attached sheet. The current certificate of insurance must be submitted by low bidder within 10 days after bid opening to the Purchasing Department. Failure to comply will cause bid to be rejected. JEFFERSON PARISH reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
11. A bid bond will be required with bid submission in the amount of 5% of the total bid, unless otherwise stated in the bid specifications. Acceptable forms shall be limited to cashier's check, certified check, or surety bid bond. All sureties must be in original format (no copies) If submitting a bid online, vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.
12. This is a requirements contract to be provided on an as needed basis. JEFFERSON PARISH makes no representations on warranties with regard to minimum guaranteed quantities unless otherwise stated in the bid specifications.
13. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be rejected if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.
14. **PUBLIC WORKS BIDS - Completed, Signed and Properly Notarized Affidavits (in Original Format) required;** Non-Conviction Affidavit, Non-Collusion Affidavit, Campaign Contribution Affidavit and E-Verify Affidavit must be completed, signed, notarized and submitted by low bidder within 10 days after bid opening to the Purchasing Department on all solicitations for construction, alteration or demolition of public building or project, including but not limited to requirements found in LSA-RS 38:2212.9; LSA-RS 38:2212.10; LSA-RS 38:2224; Code of Ordinances, Jefferson Parish, Louisiana, Sec 2-923.1. Failure to comply will cause bid to be rejected; the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event. For the convenience of vendors, all affidavits have been combined into one form entitled PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format for the bid to be considered responsive.
15. **NON PUBLIC WORK BIDS - Completed, Signed and Properly Notarized Affidavits (in Original Format) required;** Non-Collusion Affidavit, and Campaign Contribution Affidavit must be completed, signed, notarized and submitted by low bidder within 10 days after bid opening to the Purchasing Department. See LSA-RS 38:2212.10; LSA-RS 38:2224; Code of Ordinances, Jefferson Parish, Louisiana, Sec 2-923.1 Failure to comply will cause bid to be rejected; the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event. For the convenience of vendors, all affidavits have been combined into one form entitled NON PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format for the bid to be considered responsive.
16. The ensuing contract for this bid solicitation may be eligible for FEMA reimbursement and/or Federal funding reimbursement.. As such, the referenced attachment will be applicable accordingly and shall be considered a part of the bid documents. All applicable certifications must be duly completed, signed and submitted within 10 days of bid opening. Failure to submit applicable certifications within 10 days of bid opening will result in bid rejection.
17. For this project, the Contractor shall not pay any state or local sales or use taxes on materials and equipment which are affixed and made part of the immovable property of the project or which permanently incorporated in the project (hereinafter referred to as "applicable materials and equipment"). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of Jefferson Parish (Owner), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owned on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session – Louisiana Revised Statute 47:301(8)(c). Owner will furnish contractor a certificate form which certifies that Owner is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment

It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission; and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to Jefferson Parish Code of Ordinances Section 2-155.10(19). By submitting a bid, vendor acknowledges this and will abide by all provisions of the referenced Jefferson Parish Code of Ordinances.



Bid Number 50-00116919

**A ONE-TIME PURCHASE AND INSTALLATION OF A GAS
CHOMATOGRAPH AND AUTOSAMPLER FOR THE JEFFERSON PARISH
DEPARTMENT OF WATER, WATER LAB**

BID DUE: July 7, 2016 / 2:00 PM


ATTENTION VENDORS!!!

**Please review all pages and respond accordingly, complying with all provisions
in the technical specifications and Jefferson Parish Instructions for Bidders and
General Terms and Conditions. All bids must be received in the Purchasing
Department by the bid due date and time.**

**Jefferson Parish Purchasing Department
200 Derbigny Street
General Government Building, Suite 4400
Gretna, LA 70053
Buyer: Melissa Ovalle
Buyer Email: movalle@jeffparish.net
Buyer Phone #: 504-364-2687**

Agilent 7890B GC Bid Specifications

Model/ option	Specification	Description	Justification
G3440B	Retention time performance	Retention time repeatability: < 0.008% or < 0.0008 min * Area repeatability < 1% RSD * * 2ng tetradecane, using 7890A, ALS, Agilent datasysem	Precise retention time and area reproducibility are the basis for all qualitative and quantitative chromatographic measurements
G3440B	GC Configuration	Must support simultaneously: - two inlets - three detectors - four detector signals	Multiple inlets/detectors offer flexibility in configuration for a wide variety of analyses
G3440B	EPC Modules/ EPC Channels	Must be able to install up to six EPC modules can be installed, providing control of up to 16 channels of EPC	Allows maximum flexibility in configuring GC for a wide variety of applications.
G3440B	Inlet, Aux and PCM EPC Modes	Must provide, when used with capillary columns, four column flow control modes: constant pressure, ramped pressure (3 ramps), constant flow, or ramped flow (3 ramps). Column average linear velocity is calculated.	The ability to program the flow provides another means to speed up the analysis when limited by temperature. Allows guard column backflushing to begin during the run by programming the auxiliary flow.
G3440B	LAN	The LAN interface must allow real-time monitoring of the GC when it is connected with monitoring & diagnostic sSoftware, even when also connected to a data system	Enables simultaneous real-time monitoring of GC, even during operation
G3440B	Counters Software for GC	GC must provide software that monitors GC counters and provides graphic display. Also must provide a real-time notification via indicator/advisory when a counter limit has been reached.	Enables user to have access to a counters in a graphical manner with automatic notifications
G3440B	Set point control	Must provide set point control from the local keyboard or via a networked data system.	Stand-alone control allows use of GC with analog signal data analysis systems. Setpoints can be adjusted at the instrument if the networked system is not nearby.
G3440B	Automation control and clock time programming	Must provide automation control from the local keyboard or via a networked data system. Must provide clock-time programming initiated from the front panel to initiate events (on/off, method start, etc.) at a future date and time.	Local operation allows valved and/or ALS injections to be used. Sequences run from the keyboard allow automation when data analysis system does not provide it. Local clock time programming allows operations such as blank runs to be scheduled by day of the week. The same type of operations is also available from networked data system control.
G3440B	Run time deviation log	Must provide a run time deviation log created for each analysis	Ensures that all method parameters were achieved and maintained.
G3440B	Display of all GC set points at the GC or data system.	Must provide display of all GC and automatic sampler set points at the GC or data system via English or Chinese characters on GC display	Easy user interface
G3440B	Operating temperature range	Oven operating range must be from Ambient temperature +4 °C to 450 °C.	Wide temperature range necessary for flexibility in method development.
G3440B	Temperature set point resolution	Oven temperature set point resolution must be 0.1 °C.	Provides better support of faster methods using method translation.

G3440B	Oven ramps/plateaus	Oven must support 20 oven ramps with 21 plateaus. Negative ramps are allowed.	Multiple temperature ramps necessary for flexibility in method development.												
G3440B	Oven ramp rates	Maximum achievable Temperature ramp rates: 120 °C/min (120 V units are limited to 75°C/min)	Fast GC increases lab productivity. – fast cool down reduces cycle time without method modification												
G3440B	Fast oven ramp rates (single channel GC operation,	Must be able to achieve the following ramp rates for single channel GC operation: - high power (>200volts, >15 amps) and oven insert allowed):	Allows for fast GC methods												
		<table><tr><th>Temp Range (°C)</th><th>Ramp Rate (°C/min)</th></tr><tr><td>50 to 70</td><td>120</td></tr><tr><td>70 to 115</td><td>120</td></tr><tr><td>115 to 175</td><td>110</td></tr><tr><td>175 to 300</td><td>80</td></tr><tr><td>300 to 450</td><td>65</td></tr></table>	Temp Range (°C)	Ramp Rate (°C/min)	50 to 70	120	70 to 115	120	115 to 175	110	175 to 300	80	300 to 450	65	
Temp Range (°C)	Ramp Rate (°C/min)														
50 to 70	120														
70 to 115	120														
115 to 175	110														
175 to 300	80														
300 to 450	65														
G3440B	Oven cool down	Oven cool down (22 °C ambient) 450 to 50 °C in 4.0 min (3.5 min with oven insert accessory).	Fast cool down time allows for overall fast cycle time												
G3440B	Ambient temperature rejection	Oven must have ambient rejection: < 0.01 °C per 1 °C.	Reduces the influence of the ambient temperature on retention time repeatability.												
	Oven power safety	Oven power must turn-off automatically when the lid/door is opened.	User must be protected from high oven heat when door is opened.												
G3440B	Gas supply shutoff	An automatic carrier shutoff, if the inlet pressure drops significantly, must be built-in	Low pressure indicates that there is insufficient gas for the chromatographic run to be valid, protects against gas loss in case of leaks												
G3440B	Pneumatics	Pneumatics must be electronic and programmable.	Precise pneumatic control is a key component to retention time and area repeatability. Programmability allows automation using methods with different pressure and flow set points.												
G3440B	Pneumatics	Each EPC unit is optimized for its intended use with a specific inlet and detector option.	No unneeded parts to effect complexity and reliability. Components are chosen to optimize stability in the normal operating range of each specific inlet or detector. This leads to better retention time and area repeatability.												
G3440B	Inlet Pneumatics	Inlet must have Electronic pneumatic control of carrier, split and septum purge gases, including electronic ON/OFF	Electronic pressure control allows greater flexibility of operation than manual controls. Full method documentation. Programming of inlet pressure can minimize sample degradation and improve efficiency of sample transfer to the column. Reduces the influence of environmental factors retention time repeatability. Methods remain stable when atmospheric pressure changes. Methods at sea level and high elevations give the same results.												
G3440B	Compensation for barometric pressure and ambient temperature changes is standard	Compensation for barometric pressure and ambient temperature changes must be standard.													
G3440B	Pressure setpoint precision and control	Pressure set points must be able to be adjusted by increments of 0.001 psi, with typical control ± 0.001 for the range 0.000 to 99.999 psi; 0.01 psi for the range 100.00 psi to 150.00 psi	Leads to more precise translation of methods and retention time locking precision. This is especially important for methods requiring low column head pressure.												

G3440B	Pressure/flow ramps	User must be able to set up to a maximum of three Pressure/flow ramps in addition to injecting at a different (pulsed) pressure	Constant flow or pressure provide consistent efficiency, but additional ramps can be used to decrease retention times after column temperature limit is reached or to elute unimportant late eluting peaks faster.
G3440B	Carrier and makeup gas settings	User must be able to select carrier and makeup gas types. Carrier types supported are He, H ₂ , N ₂ , and argon/methane. Makeup gas types available are detector specific	This allows column flow to be controlled with the user's preferred carrier gas. This is required because of the differences in the gases' viscosities
G3440B	Temperature coefficient drift	Electronic pneumatic control must have a temperature coefficient : <± 0.01 psi/°C, Drift: <± 0.1 psi/6 months.	Reduces the influence of environmental factors retention time and area repeatability.
G3440B	Flow sensors	Flow sensors must have specification for Accuracy: <± 5% depending on carrier gas, Repeatability: <± 0.35% of setpoint, normal temperature and pressure (NTP)* per °C for He or H ₂ ; <± 0.05 mL/min NTP per °C for N ₂ or Ar/CH ₄ .	Enables better instrument repeatability and instrument to instrument precision.
G3440B	Flow/pressure setpoints display/control	Flow/pressure setpoints via GC or Agilent ChemStations	Allows setpoints to be displayed/controlled via Agilent devices per user preference.
G3440B	Constant flow mode	Constant flow mode must be available	Flow decreases with increasing oven temperature if only constant pressure mode is available. This leads to increased retention times
G3440B	Mass Flow Sensors	Split/splitless, and PTV inlets must have mass flow sensors for the control of flow to inlet	Mass flow sensors provide best dynamic range of flow and pressure control. High flow rates are available even when the column pressure is low.
G3440B	S/SL and PTV inlets ratios set electronically	S/SL and PTV inlets must allow the split ratio to be set electronically Split flow and split ratio are calculated from total flow and calculated column and calibrated septum purge flows	Convenience of method setup, accuracy of split ratio
G3440B	Inlet modules Pressure sensors	Accuracy: <± 2% full scale, Repeatability: <± 0.05 psi, Temperature coefficient : <± 0.01 psi/°C, Drift: <± 0.1 psi/6 months.	Retention time repeatability and precision.
G3440B	Inlet modules Flow sensors	Accuracy: <± 5% depending on carrier gas, Repeatability: <± 0.35% of setpoint, normalized temperature and pressure (NTP)* per °C for He or H ₂ ; <± 0.05 mL/min NTP per °C for N ₂ or Ar/CH ₄ .	Retention time repeatability for packed column operation in PP inlet, split ratio stability and accuracy in S/SL inlet.
G3440B	Detector modules	Accuracy: <± 3 mL/min NTP or 7% of setpoint, Repeatability: <± 0.35% of setpoint *NTP = 25 °C and 1 atmosphere	Area repeatability because detector response is stable. Instrument to instrument detector reproducibility when flows can be set accurately.
G3440B	Number of inlets installed	Must be able to install up to two inlets	Provides flexibility in configurations for GC applications
G3440B	Inlets available	Must be able to install any of these inlets - Split/splitless capillary inlet (S/SL) - Purged packed injection port (PPIP) - Multimode inlet (MMI) - Temperature-programmable cool on-column (PCOC) - Programmable temperature vaporizer (PTV) - Volatiles inlet (VI)	A wide variety of inlets to suit the user's application
G3440B	Inlet pneumatics SSL	Inlet must have Electronic pneumatic control of carrier, split and septum purge	Electronic pressure control allows greater flexibility of operation than manual

		gases, including electronic ON/OFF	controls. Full method documentation. Programming of inlet pressure can minimize sample degradation and improve efficiency of sample transfer to the column. Choose the column to suit your sample.
G3440B	Capillary column id	Must be suitable for all capillary columns including DB-5.625 column, 30 m, 0.32 mm, 0.25 μ m	
G3440B	Split ratios allowed	Must allow split ratio setpoint up to 7,500:1	A wide range of available split ratios help avoid column overload.
G3440B	Modes	Must allow these modes and be easily accessible::	The right mode for every sample is easily selected.
	SSL	- split - splitless mode - Pressure-pulsed splitless mode.	Split mode allows the user to introduce the appropriate amount of sample on high resolution capillary columns for analysis (e.g., gasoline analysis). Splitless mode allows for more trace analysis. Pressure-pulsed splitless mode can reduce the amount of time spent in the vaporizing inlet, improve early eluting peaks. Pulsed Split is also available. High maximum temperature for flexibility in method development
G3440B	Maximum temperature	Maximum temperature: 400 °C.	
G3440B	EPC Pressure Ranges	EPC available in two pressure ranges: - 0 to 100 psig (0 to 680 kPa) \geq 0.200 mm diameter - 0 to 150 psig for columns < 0.200 mm diameter.	Allows the pressure range to be matched to the working pressures required by the column and oven temperature. The smaller diameter columns require a higher maximum pressure for a given temperature. Wider bore columns require the precision at low pressure available when the pressure range is more limited. Agilent optimizes instead of compromises.
G3440B	Gas saver mode	Gas saver mode built in	Reduces gas consumption without compromising performance. (reduces split vent flow at a run-time programmable time, without affecting the column flow, the gas saver mode key will restore the original flow rate)
G3440B	Septum purge	Must have electronic septum purge flow	Septum purge helps eliminate "ghost" peaks. Electronic control allows user to set the flow for his septum of choice and the injection parameters required.
G3440B	Purge flow change	Split and septum purge flow can be changed without changing the column flow	Changing the split and septum flow without changing the column flow allows for changes in sample concentration without affecting retention times.
G3440B	Total flow range	Must be able to set total flow range: 0 to 200 mL/min N_2 0 to 1,250 mL/min H_2 or He	A wide range for setting total flow enables the widest range of applications.
G3440B	Inlet maintenance	Inlet sealing system is built in standard with each S/SL inlet for quick, easy, injector liner changes in under 30 seconds.	Fast, easy inlet maintenance helps minimize instrument downtime
G3440B	Electronic pneumatics control and electronic on/off for all detector	Electronic pneumatics control and electronic on/off for all detector gases.	Electronic pressure control allows greater flexibility of operation than manual controls. Full method documentation. Setting detector pressure/flows can help optimize detector operation and sensitivity.

G3440B	gases Detector Electronic compensation	Detector EPC compensated for atmospheric pressure and temperature variation	Reduces the influence of environmental factors that affect detector performance. Methods and performance remain stable when atmospheric pressure changes. Improves area repeatability. High sensitivity allows smaller amounts of analyte to be detected
G3440B	Sensitivity ECD	Minimum detectable level: 4.5 fg/mL lindane	
G3440B	Linear Dynamic Range ECD	Proprietary signal linearization. Linear dynamic range: $> 5 \times 10^4$ with lindane	A high linear dynamic range allows a wider range of concentrations to be detected in one run. This reduces the number of reinjections necessary, leading to higher lab productivity. It is required for some regulated methods.
G3440B	Data rate ECD	Data acquisition rate: up to 50 Hz	High acquisition rate required for fast chromatography. Data rate fast enough for 100 msec wide (half height) peaks - ^{63}Ni is preferred source of β^- particles. The amount chosen has been optimized for detector performance and safety.
G3440B	Electron source ECD	Uses β^- emission of $< 15 \text{ mCi } ^{63}\text{Ni}$ as the electron source.	
G3440B	Micro cell (anode) design ECD	Must be equipped with hidden anode and high velocity flows.	Minimizes contamination and optimizes sensitivity
G3440B	Maximum temperature ECD	400 °C maximum operating temperature	High temperature necessary to vaporize high boiling compounds
G3440B	EPC control ECD	Standard EPC makeup gas types: argon/5% methane or nitrogen; 0 to 150 mL/min	Electronic pressure control allows greater flexibility of operation than manual controls.
G3440B	EPC atmospheric pressure & temperature variation compensations	EPC atmospheric pressure & temperature variation compensations	Reduces the influence of environmental factors retention time repeatability. Methods remain stable when atmospheric pressure changes. Methods as sea level and high elevations give the same results.
G3440B	EPC Pressure control	Psig (gauge) and psia (absolute) pressure control	Both psig and psia pressure control provide stability in pressure
G3440B	Channels per PCM	2 channels	PCM can be located in either/ both inlet EPC positions, and in either/both auxiliary positions on the back of the 7890B GC
G3440B	Maximum	Maximum of 3 PCMs per GC	More auxiliary channels of EPC, flow or pressure, provide more flexibility and wider range of potential analyses.
G3440B	CFT- Diffusion bonding	Diffusion bonding	Forms a single flow plate
G3440B	CFT- Small profile	Small profile	For fast thermal response
G3440B	CFT- Projection welded connections	Projection welded connections	For leak-tight fittings
G3440B	CFT- Deactivation	Deactivation of all internal surfaces in the sample path	For sample path inertness
G3440B	Deans Switch Device	Pneumatic 2-dimensional heart-cutting	Deans switching provides additional selectivity using 2-dimensional GC analysis. Peaks of interest that may be

			<p>coeluting on one column are diverted to a separate column of different stationary phase. This technique can also reduce maintenance costs by having troublesome solvents or other components bypass detectors or columns.</p>
G3440B	Purged Effluent Splitters Devices	Pneumatic purged 2-way or 3-way splitter	<p>A 3-way purged effluent splitter sends column effluent to three detectors, even an MSD. More information can be obtained in a single run to help locate target peaks in unknowns. A 2-way purged effluent splitter version is also available.</p>
G3440B	Location of introduction of EPC	EPC can be introduced at any column or restrictor connection	<p>Allows flexibility and versatility in developing methods utilizing capillary flow technology</p>
G3440B	Configuration	Capillary Flow configuration of up to six columns/restrictors	<p>Allows flexibility and versatility in developing methods utilizing capillary flow technology</p>
G3440B	Backflush	GC firmware/software optimized for backflush operation.	<p>Backflush Wizard Software simplifies backflush set-up and operation with the 7890B GC</p>
G3440B	Communication interfaces	<ul style="list-style-type: none"> • LAN • Two analog output channels (1-mV, 1-V, and 10-V output available) as standard • Remote start/stop • Keyboard control of the Agilent Automatic Liquid Sampler (ALS) • Storage of 10 methods • Storage of five ALS sequences • Binary-coded decimal input for a stream selection valve • Serial port interface for Remote Advisor or optional Bar Code Reader 	<p>LAN communication allows network analysis</p>
G3440B	Regulatory for EMC and RFI	Designed and manufactured under a quality system registered to ISO 9001, Declaration of Conformity available.	<p>Tested to conform to industry recognized standards for regulations for emission and susceptibility to electromagnetic interferences</p>
G3440B	ISO 9001	<p>Four internal 24-volt connections (up to 150 mA)</p> <p>Two external 24-volt connections (up to 150 mA)</p> <p>Two on/off contact closures (48 V, 250 mA max)</p>	<p>Designed under industry standard quality system.</p>
G3440B	Connections/ contact closures	550 time events via data system. 50 time events via GC keyboard	<p>Flexible capabilities connecting to external devices</p>
G3440B	Timed Events	<p>Support for up to 8 valves:</p> <ul style="list-style-type: none"> -valves 1-4, 12 V DC 13 watt in a heated valve box - valves 5-6, 24 V DC 100 mA unheated, for low power valve applications - Valves 7-8, externally powered as a remote event from separate contact closure 	<p>Large number of available timed events particularly useful for multi-dimensional chromatography</p>
G3440B	Support for up to 8 valves	Independent heated zones, not	<p>Flexible valves allow complex application. Control as part of sample run table</p>

		including oven: six (two inlets, two detectors, and two auxiliary). Third detector as TCD can utilize any available zone from inlet or auxiliary zones.	provides method documentation and precision
G3440B	Heated zones	Maximum operating temperatures for auxiliary zones: 400 °C	Heated zones for inlet, detector and auxiliary zones
G3440B	Maximum operating temperatures for auxiliary zones		High temperature operation for analysis of high boiling sample components

DATE: 6/22/2016

INVITATION TO BID
THIS IS NOT AN ORDER

Page: 1

BID NO.: 50-00116919

JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETN, LA. 70054-0009
504-364-2678

BUYER: MOVALLE@jeffparish.net

BIDS WILL BE RECEIVED IN THE PURCHASING DEPARTMENT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETN, LA 70053 UNTIL 2:00 PM, 7/07/2016 AND PUBLICLY OPENED THEREAFTER.

LATE BIDS WILL NOT BE ACCEPTED

Unless submitting via online (see Page 3), each bid must be submitted in a sealed envelope bearing on the outside; the name of the Bidder, his address, and the name of the project for which the bid is submitted and the bid number.

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES SHALL RESULT IN BID REJECTION.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

THE FOLLOWING INSTRUCTIONS APPLY TO ALL BIDS

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law as well be in compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, applicable Jefferson Parish ethical standards and Jefferson Parish Resolution No. 113646 and/or Resolution No. 113647.

All vendors submitting bids must register as a Jefferson Parish vendor if not already yet registered. Bidders may be required to furnish current W-9 Forms and respective Tax Identification Numbers within 10 days after bid opening if such information is not on file or not up to date. Registration forms may be downloaded from www.purchasing.jeffparish.net and clicking on Vendor Information.

All quotations shall be based on F.O.B. Agency warehouse or job site, anywhere within the Parish as designated by the Purchasing Department. This provision does not apply to public works projects

JEFFERSON PARISH requires all products to be new (current) and all work must be performed according to standard practices for the project. Unless otherwise specified, no aftermarket parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least one (1) year guaranty, in writing, from the date of delivery and/or acceptance of the project. Any deviations or alterations from the specifications must be indicated and/or supporting documentation supplied with bid submission.

Bidders should submit all questions in writing and fax them to the Purchasing Department at (504) 364-2693 no later than FIVE (5) working days prior to bid opening. Bid numbers should be mentioned in all requests. Questions may also be emailed to the buyer for this bid at the email address listed above. If submitting online, vendors may send questions via the E-Procurement site no later than Five (5) working days prior to the bid opening.

If this bid requires a pre-bid conference (see Additional Requirements section), bidders are advised that such conference will be held to allow bidders the opportunity to identify any discrepancies in the bid specifications and seek further clarification regarding instructions. The Purchasing Department will issue a written response to bidders' questions in the form of an Addendum. Please note that all official communication will be expressed in the form of an addendum.

All formal Addenda require written acknowledgement on the bid form by the bidder. Failure to acknowledge an Addendum on the bid form shall cause the bid to be rejected. JEFFERSON PARISH reserves the right to award bid to next lowest responsive and responsible bidder in this event.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal. JEFFERSON PARISH WILL ACCEPT ONE BID ONLY FROM EACH VENDOR. Items bid must meet specifications.

Visit our website at [HTTP://PURCHASING.JEFFPARISH.NET](http://PURCHASING.JEFFPARISH.NET)

JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection. Bidders are required to complete, sign and return the bid form and/or complete and return the associated line item pricing forms as indicated. Vendors must not alter the bid forms. Doing so will cause the bid to be rejected.

If the bid exceeds \$30,000.00 and the company is duly authorized to do business in the state of Louisiana, a corporate resolution must be submitted with the bid or the person signing the bid documents must be listed on the Louisiana Secretary of State's website as an officer of the corporation, unless bidder has otherwise complied with LSA-R.S. 38:2212(B)(5). If the bid is in excess of \$30,000 and bidder is registered out of the state of Louisiana, a corporate resolution must be submitted with the bid, unless bidder has otherwise complied with LSA-R.S. 38:2212(B)(5). Failure to comply will cause bid to be rejected; the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event. Bids submitted by Owner or Sole Proprietorships must include certification that he or she owns the entity for which the bid is signed. Sole proprietors submitting bids for public works projects shall within 10 days after bid opening submit sole proprietorship certification.

NOTE: A sample corporate resolution can be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document. A sample certification of sole proprietorship can also be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

A. AWARD OF CONTRACT: JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIVE and RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE. IN THE EVENT OF SPLIT AWARD, THE PURCHASING DEPARTMENT MAY CONTACT VENDORS TO REQUEST REQUIRED AFFIDAVITS. THOSE VENDORS WILL HAVE 10 DAYS FROM THE DATE OF NOTICE TO SUBMIT COMPLETE, SIGNED AND NOTARIZED AFFIDAVITS IN ORIGINAL FORMATS.

All bid prices shall remain valid for 45 days. Jefferson Parish and the lowest responsive and responsible bidder(s) by mutual written consent may mutually agree to extend the deadline for award by one (1) or more extensions of thirty (30) calendar days.

Preference is hereby given to materials, supplies, and provisions produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the state. "LSA-R.S.38:2251-2261"

B. USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

C. CANCELLATION OF CONTRACT: JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at anytime and for any reason by issuing a THIRTY (30) day written notice to the contractor.

For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.

D. PRICES: Jefferson Parish is exempt from paying sales tax under LSA-R.S. 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit of measure specified and unless otherwise specified, shall be exclusive of state and Parish taxes. The price quoted for work shall be stated in figures. In the event there is a difference in unit prices and totals, the unit price shall prevail.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A17.1-1961).

Advertised bids will be tabulated and a copy of the tabulation will be forwarded to each responding bidder.

IN ACCORDANCE WITH STATE REGULATIONS JEFFERSON PARISH OFFERS ELECTRONIC PROCUREMENT TO ALL VENDORS

This electronic procurement system allows vendors the convenience of reviewing and submitting bids online. This is a secure site and authorized personnel have limited read access only. Bidders are encouraged to submit electronically using this free service; while the website accepts various file types, one single PDF file containing all appropriate and required bid documents is preferred. Bidders submitting uploaded images of bid responses are solely responsible for clarity. If uploaded images/documents are not legible, then bidder's submission will be rejected. Please note all requirements contained in this bid package for electronic bid submission.

Please visit the Purchasing Department webpage at <http://purchasing.jeffparish.net> to register and review Jefferson Parish solicitations.

The general specifications for construction projects and the purchase of materials, services and/or supplies are those adopted by the JEFFERSON PARISH Council by Resolution No. 113646 or 113647 dated 12/09/09. The general conditions adopted by this resolution shall be considered as much a part of this document as if they were written wholly herein. A copy may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053. You may also obtain a copy by visiting the Purchasing Department webpage at <http://purchasing.jeffparish.net> and clicking on Online Forms.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE
CORRESPONDING INSTRUCTIONS BELOW.

10, 13, 15

1. All bidders must attend the MANDATORY pre-bid conference and will be required to sign in and out as evidence of attendance. In accordance with LSA R.S. 38:2212(l), all prospective bidders shall be present at the beginning of the MANDATORY pre-bid conference and shall remain in attendance for the duration of the conference. Any prospective bidder who fails to attend the conference or remain for the duration shall be prohibited from submitting a bid for the project.
2. Attendance to this pre-bid conference is optional. However, failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. Furthermore, failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification with no additional cost to the owner.
3. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project. Contractor must also hold any and all applicable Federal and State licenses. Contractor shall be responsible for the payment of these permits and shall obtain them prior to the start of the project.
4. A LA State Contractor's License will be required in accordance with LSA R.S. 37-2150 et. seq. and such license number will be shown on the outside of the bid envelope. Failure to comply will cause the bid to be rejected. Additionally if submitting the bid electronically, then the license number must be entered in the appropriate field in the Electronic Procurement system. Failure to comply will cause the bid to be rejected.
5. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
6. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

7. **PUBLIC WORKS BIDS:** All awards for public works in excess of \$5,000.00 will be reduced to a formal contract which shall be recorded at the contractor's expense with the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. A price list of recordation costs may be obtained from the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 will require both a performance and a payment bond. Unless otherwise stated in the bid specifications, the performance bond requirements shall be 100% of the contract price. Unless otherwise state in the bid specifications, the payment bond requirements shall be 100% of the contract price. Both bonds shall be supplied at the signing of the contract.
8. **NON-PUBLIC WORKS BIDS:** A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The performance bond shall be supplied at the signing of the contract.
9. **NON-PUBLIC WORKS BIDS:** A payment bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The payment bond shall be supplied at the signing of the contract.
10. Unless otherwise stated in the bid specifications, the successful bidder will be required to procure standard insurance policies evidencing Parish-mandated insurance requirements as indicated on the attached sheet. The current certificate of insurance must be submitted by low bidder within 10 days after bid opening to the Purchasing Department. Failure to comply will cause bid to be rejected. JEFFERSON PARISH reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
11. A bid bond will be required with bid submission in the amount of 5% of the total bid, unless otherwise stated in the bid specifications. Acceptable forms shall be limited to cashier's check, certified check, or surety bid bond. All sureties must be in original format (no copies) If submitting a bid online, vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.
12. This is a requirements contract to be provided on an as needed basis. JEFFERSON PARISH makes no representations on warranties with regard to minimum guaranteed quantities unless otherwise stated in the bid specifications.
13. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be rejected if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.
14. **PUBLIC WORKS BIDS - Completed, Signed and Properly Notarized Affidavits (in Original Format) required;** Non-Conviction Affidavit, Non-Collusion Affidavit, Campaign Contribution Affidavit and E-Verify Affidavit must be completed, signed, notarized and submitted by low bidder within 10 days after bid opening to the Purchasing Department on all solicitations for construction, alteration or demolition of public building or project, including but not limited to requirements found in LSA-RS 38:2212.9; LSA-RS 38:2212.10; LSA-RS 38:2224; Code of Ordinances, Jefferson Parish, Louisiana, Sec 2-923.1. Failure to comply will cause bid to be rejected; the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event. For the convenience of vendors, all affidavits have been combined into one form entitled PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format for the bid to be considered responsive.
15. **NON PUBLIC WORK BIDS - Completed, Signed and Properly Notarized Affidavits (in Original Format) required;** Non-Collusion Affidavit, and Campaign Contribution Affidavit must be completed, signed, notarized and submitted by low bidder within 10 days after bid opening to the Purchasing Department. See LSA-RS 38:2212.10; LSA-RS 38:2224; Code of Ordinances, Jefferson Parish, Louisiana, Sec 2-923.1 Failure to comply will cause bid to be rejected; the Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event. For the convenience of vendors, all affidavits have been combined into one form entitled NON PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format for the bid to be considered responsive.
16. The ensuing contract for this bid solicitation may be eligible for FEMA reimbursement and/or Federal funding reimbursement.. As such, the referenced attachment will be applicable accordingly and shall be considered a part of the bid documents. All applicable certifications must be duly completed, signed and submitted within 10 days of bid opening. Failure to submit applicable certifications within 10 days of bid opening will result in bid rejection.
17. For this project, the Contractor shall not pay any state or local sales or use taxes on materials and equipment which are affixed and made part of the immovable property of the project or which permanently incorporated in the project (hereinafter referred to as "applicable materials and equipment"). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of Jefferson Parish (Owner), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owned on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session – Louisiana Revised Statute 47:301(8)(c). Owner will furnish contractor a certificate form which certifies that Owner is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment

It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission; and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to Jefferson Parish Code of Ordinances Section 2-155.10(19). By submitting a bid, vendor acknowledges this and will abide by all provisions of the referenced Jefferson Parish Code of Ordinances.

All Public Work Projects are required to use the Louisiana Uniform Public Work Bid Form

All prices must be held firm unless an escalation provision is requested in this bid. Jefferson Parish will allow one escalation during the term of the contract, which may not exceed the U.S. Bureau of Labor Statistics National Index for all Urban Consumers, unadjusted 12 month figure. The most recently published figure issued at the time an adjustment is requested will be used. A request must be made in writing by the vendor, and the escalation will only be applied to purchases made after the request is made.

Are you requesting an escalation provision?

YES _____ NO X _____

MAXIMUM ESCALATION PERCENTAGE REQUESTED _____%

INITIAL BID PRICES WILL REMAIN FIRM THROUGH THE DATE OF August 31, 2016.

For the purposes of comparison of bids when an escalation provision is requested, Jefferson Parish will apply the maximum escalation percentage quoted by the bidder to the period to which it is applied in the bid. The initial price and the escalation will be used to calculate the total bid price. It will be assumed, for comparison of prices only, that an equal amount of material or labor is purchased each month throughout the entire contract.

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES

30 Days ARO

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) _____

THIS SECTION MUST BE COMPLETED BY BIDDER:FIRM NAME: Shimadzu Scientific Instruments, Inc.ADDRESS: 9940 W. Sam Houston Pwy. South, Suite 300CITY, STATE: Houston, TexasZIP: 77099TELEPHONE: () 713-467-1151FAX: () 713-467-1153EMAIL ADDRESS: dajorissen@shimadzu.com

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: _____

NUMBER: _____

NUMBER: _____

NUMBER: _____

REJECTED
ALL BID REQUIREMENTS NOT METTOTAL PRICE OF ALL BID ITEMS: \$ \$25,519.98

AUTHORIZED

SIGNATURE: David Jorissen

Printed Name

TITLE: Regional Manager

SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the BID NUMBER and BID OPENING DATE indicated on the outside of the envelope submitted to the Purchasing Department.

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00116919

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	1.00	EA	<p>A ONE-TIME PURCHASE AND INSTALLATION OF A GAS CHROMATOGRAPH AND AUTOSAMPLER FOR THE JEFFERSON PARISH DEPARTMENT OF WATER, WATER LAB</p> <p>0010 - AGILENT G3440B, 7890B GAS CHROMATO-GRAPH CUSTOM,</p> <p>INCLUDES: LAN INTERFACE, 7693 INTERFACE, 20-RAMP OVEN PROGRAMMING, 6 HEATED ZONES, 2 ANALOG OUT, KEYBOARD AND DISPLAY PRESSURE SETPOINTS TO 0.001 PSI WITH THE FOLLOWING CONFIGURATION: CAPILLARY SPLIT/SPLITLESS INLET WITH ELECTRONIC PNEUMATICS CONTROL (EPC), MICRO ELECTRON CAPTURE DETECTOR WITH EPC, FACTORY PLUMBING FOR QUICK INSTALLATION, OVEN EXHAUST DEFLECTOR</p> <p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p> <p>INSTRUMENT MUST WORK WITH EXISTING SOFTWARE ANALYSIS PACKAGE</p>		
2	1.00	EA	<p>0020 - AGILENT G4513A, 7693A AUTOINJECTOR</p> <p>INCLUDES: TRANSFER TURRET, 16-SAMPLE TURRET, MOUNTING POST, PARKING POST FOR GC, 10 UL SYRINGE, AND SOLVENT BOTTLES.</p> <p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p>		
3	1.00	EA	<p>0030 - AGILENT G4514A, 7693 TRAY, 150 VIAL INCLUDES 3 REMOVABLE 50 VIAL RACKS AND GC MOUNTING BRACKET</p> <p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p>		
4	1.00	EA	<p>0040 - AGILENT 123-5631, DB-5.625 COLUMN, 30 M, 0.32 MM, 0.25 UM</p> <p>*****</p> <p>INSTRUMENT WILL BE USED FOR THE ANALYSIS OF FEDERALLY REGULATED DISINFECTION BY- PRODUCTS IN DRINKING WATER.</p> <p>INSTRUMENT MUST BE COMPATIBLE WITH EXISTING AGILENT SOFTWARE PACKAGE THAT CONTROLS THE INSTRUMENT ITSELF.</p>		

REJECTED
ALL BID REQUIREMENTS NOT MET

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00116919

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
			<p>VENDOR RESPONSIBLE FOR INSTALLATION AND FAMILIARIZATION AT INSTALLATION</p> <p>INSTALLATION TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING:</p> <p>*ACTUAL SET-UP OF THE INSTRUMENT</p> <p>*INSTALL OF THE VARIOUS COMPONENTS SUCH AS: THE COLUMN AND THE AUTOSAMPLER</p> <p>*VENDOR TO ENSURE THAT THE INSTRUMENT COMMUNICATES TO EXISTING SOFTWARE PACKAGE</p> <p>*SET-UP OF THE METHOD FOR THIS PARTICULAR ANALYSIS WITHIN THE SOFTWARE</p> <p>*VENDOR TO ASSEMBLE COMPONENTS ON/IN THE NEW INSTRUMENT BEFORE USE</p> <p>*****</p>		

CORPORATE RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF

INCORPORATED.

AT THE MEETING OF DIRECTORS OF _____
INCORPORATED, DULY NOTICED AND HELD ON _____,
A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT
WAS:

RESOLVED THAT _____, BE AND IS HEREBY
APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-
FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON
BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS
AND TRANSACTIONS WITH THE PARISH OF JEFFERSON OR ANY OF ITS AGENCIES,
DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE
EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES,
CONTRACTS AND ACTS AND TO RECEIVE ALL PURCHASE ORDERS AND NOTICES
ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID OR CONTRACT, THIS
CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING, AND ACCEPTING
EACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-
FACT.

I HEREBY CERTIFY THE FOREGOING TO BE
A TRUE AND CORRECT COPY OF AN
EXCERPT OF THE MINUTES OF THE ABOVE
DATED MEETING OF THE BOARD OF
DIRECTORS OF SAID CORPORATION, AND
THE SAME HAS NOT BEEN REVOKED OR
RESCINDED.

SECRETARY-TREASURER

DATE

Non-Public Works Bid Affidavit Instructions

- **Affidavit is supplied as a courtesy to Affiants, but it is the responsibility of the affiant to insure the affidavit they submit to Jefferson Parish complies, in both form and content, with federal, state and parish laws.**
- **Affidavit must be signed by an authorized representative of the entity or the affidavit will not be accepted.**
- **Affidavit must be notarized or the affidavit will not be accepted.**
- **Notary must sign name, print name, and include bar/notary number, or the affidavit will not be accepted.**
- **Affiant MUST select either A or B when required or the affidavit will not be accepted.**
- **Affiants who select choice A must include an attachment or the affidavit will not be accepted.**
- **If both choice A and B are selected, the affidavit will not be accepted.**
- **Affidavit marked N/A will not be accepted.**
- **It is the responsibility of the Affiant to submit a new affidavit if any additional campaign contributions are made after the affidavit is executed but prior to the time the council acts on the matter.**

Instruction sheet may be omitted when submitting the affidavit

Non-Public Works Bid

AFFIDAVIT

STATE OF Texas

PARISH/COUNTY OF Harris

BEFORE ME, the undersigned authority, personally came and appeared: _____

David Jorissen, (Affiant) who after being by me duly sworn, deposed and said that he/she is the fully authorized Regional Manager of Shimadzu (Entity), the party who submitted a bid in response to Bid Number 50-00116919, to the Parish of Jefferson.

Affiant further said:

Campaign Contribution Disclosures

(Choose A or B, if option A is indicated please include the required attachment):

Choice A _____ Attached hereto is a list of all campaign contributions, including the date and amount of each contribution, made to current or former elected officials of the Parish of Jefferson by Entity, Affiant, and/or officers, directors and owners, including employees, owning 25% or more of the Entity during the two-year period immediately preceding the date of this affidavit or the current term of the elected official, whichever is greater. Further, Entity, Affiant, and/or Entity Owners have not made any contributions to or in support of current or former members of the Jefferson Parish Council or the Jefferson Parish President through or in the name of another person or legal entity, either directly or indirectly.

Choice B X there are **NO** campaign contributions made which would require disclosure under Choice A of this section.

Debt Disclosures

(Choose A or B, if option A is indicated please include the required attachment):

Choice A _____ Attached hereto is a list of all debts owed by the affiant to any elected or appointed official of the Parish of Jefferson, and any and all debts owed by any elected or appointed official of the Parish to the Affiant.

Choice B X _____ There are **NO** debts which would require disclosure under Choice A of this section.

Affiant further said:

That Affiant has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for Affiant; and

[The remainder of this page is intentionally left blank.]

That no part of the contract price received by Affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for Affiant.


Signature of Affiant

Dave Jorissen
Printed Name of Affiant

SWORN AND SUBSCRIBED TO BEFORE ME
ON THE 6th DAY OF July, 2016.

Katelyn Ybarra Ky
Notary Public

Katelyn Ybarra
Printed Name of Notary

130335966
Notary/Bar Roll Number

My commission expires 07/19/19.



INSURANCE REQUIREMENTS - BIDS

All insurance requirements shall conform to Jefferson Parish Resolution No. 113646 or No. 113647. The contractor shall not commence work under this contract until he has obtained all insurance and complied with the requirements of the specifications and said Parish Resolutions. Except as otherwise provided by law, the Parish Attorney's Office with the concurrence of the Director of Risk Management is authorized to omit in whole or part the insurance requirements of this section in connection with contracts. Vendors inquiring about this shall submit his written request to the Purchasing Department prior to the due date of the bid. Contractor must deliver and maintain such insurances as provided; failure to do so shall be grounds for suspension, discontinuation or termination of the contract.

Successful bidder will be required to procure standard insurance policies evidencing Parish mandated insurance requirements indicated below. The current certificate of insurance must be submitted by low bidder within 10 days after bid opening to the Purchasing Department. Failure to comply will cause bid to be rejected.

1. WORKER'S COMPENSATION INSURANCE

As required by Louisiana State Statute, exception; Employer's Liability, Section B shall be \$1,000,000 per occurrence when Work is to be over water and involves maritime exposures to cover all employees not covered under the State Worker's Compensation Act, otherwise this limit shall be no less than \$500,000 per occurrence.

2. COMMERCIAL GENERAL LIABILITY

Shall provide limits not less than the following: \$1,000,000.00 Combined Single Limit per Occurrence for bodily injury and property damage.

3. COMPREHENSIVE AUTOMOBILE LIABILITY

Bodily injury liability \$1,000,000.00 each person; \$1,000,000.00 each occurrence.
Property Damage Liability \$1,000,000.00 each occurrence.

DEDUCTIBLES

No insurance required shall include a deductible not greater than \$10,000.00. The cost of the deductible shall be borne by the contractor.

NOTE: If the vendor requires a change in deductibles, the request must be submitted in writing to the Purchasing Department prior to the due date of the bid. Such request shall be reviewed by the Parish Attorney's Office.

UMBRELLA LIABILITY COVERAGE

An umbrella policy or excess may be used to meet minimum requirements.

CONSTRUCTION AND RENOVATION PROJECTS:

Unless otherwise specified in the bid, these additional insurance is required. Such insurance is due upon contract execution.

OWNER'S PROTECTIVE LIABILITY

To be for the same limits of liability for bodily injury and property damage liability established for commercial general liability.

BUILDER'S RISK INSURANCE

The contractor shall maintain Builder's Risk Insurance at his own expense to insure both the owner (Parish of Jefferson) and contractor as their interest may appear.

NOTE for CERTIFICATE HOLDER:

All insurance certificates shall list the certificate holder as follows:

"The Parish of Jefferson, its Districts, Departments and Agencies under the direction of the Parish President and the Parish Council." Additionally, the address on the Certificates should reflect the department which is letting the bid and reference the respective bid number.

Revised 2.10.2014

#34168

Form **W-9**
(Rev. November 2005)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give form to the
requester. Do not
send to the IRS.

Print or type
See specific instructions on page 2.

Name (as shown on your income tax return)	
Business name, if different from above Shimadzu Scientific Instruments, Inc	
Check appropriate box: <input type="checkbox"/> Individual/ Sole proprietor <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Other	<input type="checkbox"/> Exempt from backup withholding
Address (number, street, and apt. or suite no.) 7102 Riverwood Drive	
City, state, and ZIP code Columbia MD 21046	
List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number
or
Employer identification number
5 2 1 0 3 5 9 5 6

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
- I am a U.S. person (including a U.S. resident alien).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. (See the instructions on page 4.)

Sign Here	Signature of U.S. person <i>[Signature]</i>	Date <i>3/30/10</i>
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Purpose of Form

A person who is required to file an information return with the IRS, must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

U.S. person. Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee.

In 3 above, if applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

For federal tax purposes, you are considered a person if you are:

- An individual who is a citizen or resident of the United States,
 - A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States, or
 - Any estate (other than a foreign estate) or trust. See Regulations sections 301.7701-6(a) and 7(a) for additional information.
- Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.
- The person who gives Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States is in the following cases:
- The U.S. owner of a disregarded entity and not the entity,

Customer:

Melissa Ovalle
Jefferson Parish Purchasing Department
200 Derbigny Street
General Government Building, Suite 4400
Gretna, LA 70053
Phone:
Fax:
E-mail: movalle@jeffparish.net

Sales Engineer:

Michael May
Shimadzu Scientific Instruments
9940 W. Sam Houston Pkwy, South
Suite 300
Houston, TX 77099
Regional Office: (800) 739-1942 Ext. 5120
Direct Dial: (800) 739-1942
E-mail: MIMay@SHIMADZU.com

Sales Proposal

Quotation: SSI-101064-K3S6

Expiration: 8/31/2016

Quote Description:

Customer intends to add GC to a preexisting software package and platform.

Proposed Ship Date: 30 Days/ARO

FOB: DESTINATION **Ship Method:** BEST WAY

Shipping Terms: PREPAID & ADD

Incoterms:

Additional Information:

For proposal questions or modifications, please contact your sales representative.

For Order Placement:

Reference Quotation Number on Purchase Order
If you are tax exempt, please send a copy of your
exemption certificate with your purchase order.
Certificate may also be faxed to 410-381-1222.

Thank you for your interest in Shimadzu Scientific
Instruments.

Shimadzu Scientific Instruments
7102 Riverwood Drive, Columbia, MD 21046
Toll Free: 800-477-1227
Local: 410-381-1227 Fax: 410-381-6781
E-mail: customer.service@shimadzu.com

Authorization Signature



David Jorissen

Date: 6/24/2016

International:
Fax: 410-309-6130
E-mail: icsc@shimadzu.com

Sales Quotation - please reference the quotation when submitting purchase order.

GC-2010 Plus_

	Product #	Qty	Description	List Price	Ext'd Price
1	220-94839-42	1	GC-2010PLUS A	\$15,049.00	\$15,049.00
2	220-94850-21	1	ECD 2010Plus (Domestically Foiled Cell)	\$6,180.00	\$6,180.00
3	221-72315-58	1	AOC-20I, WITH POWER SUPPLY, GC-2010, NEW	\$4,434.00	\$4,434.00
4	221-72300-58	1	AOC-20S, GC-17/GC-2010/GC-2014, ROHS	\$2,852.00	\$2,852.00
5	221-45622-91	1	RACK, SAMPLE 12 POSITION,AOC-20I	\$222.00	\$222.00
6	221-76192-30	1	SH-Rtx-5Sil MS Cap. Column 30x0.32x0.25	\$561.00	\$561.00
7	I&F	1	INSTALLATION AND CUSTOMER FAMILIARIZATION	\$0.00	\$0.00
8	A&T	1	ASSEMBLE AND TEST	\$0.00	\$0.00
9	1YW	1	1 YEAR WARRANTY	\$0.00	\$0.00

Data Products1

	Product #	Qty	Description	List Price	Ext'd Price
10	223-62450-92	1	Shim GC Driver for OpenLAB CDS EZChrom Edition(Single System license)	\$2,843.00	\$2,843.00

Total List Price:	\$32,141.00
Quote Discount % Amt:	\$7,071.02
Quote Sub-Total:	\$25,069.98
Estimated Freight:	\$450.00
Total Amount:	\$25,519.98

Sales Quotation - please reference the quotation when submitting purchase order.
Optional Items

Optional Items:**Computers/Printers**

	Product #	Qty	Description	List Price	Ext'd Price
1	220-97318-30	1	Standard Workstation PC - Win 7 Pro 64bit	\$2,033.00	\$2,033.00
2	220-97321-10	1	Dell 24" Widescreen Flat Panel	\$390.00	\$390.00

Descriptions of Service Coverage

Preventative Maintenance

Preventative Maintenance (PM) visits will be scheduled by SSI at the mutual convenience of the buyer and SSI, or performed during any other service visit. PM visits, when provided under this Agreement, may include necessary cleaning, adjustments, verification, lubrication and parts replacement according to the PM checklist. Labor, travel expenses, and selected consumable parts will be included during the PM visit at no additional cost to the buyer.

Premium Preventative Maintenance

Premium Preventative Maintenance visits will be scheduled by SSI at the mutual convenience of the customer and SSI, or performed during any other service visit. This Premium PM will be performed by SSI according to established SSI procedures. Premium PM visits, when performed under this Agreement, will include necessary cleaning, adjustments, verification, lubrication and parts replacement. Labor, travel expenses and selected consumables parts* (list of parts available upon customer request) will be included during the Premium PM visit at no additional cost to the customer. A travel zone fee is added to the agreement to cover travel costs. Purchase of the Premium PM option does not excuse Customer from performing normal daily, weekly or monthly maintenance that may be required.

Extended Warranty

Extended Warranty coverage includes all labor and parts (excluding consumables) necessary to restore the products to operating specifications.

This coverage level is not available for MS products and the associated turbo and roughing pumps. The MS products require a coverage level which includes a Premium PM.

Extended Warranty Plus

A combination of one scheduled Premium PM visit and Extended Warranty Coverage. Premium Preventative Maintenance visits will be scheduled by SSI at the mutual convenience of the customer and SSI, or performed during any other service visit. Premium PM visits, when performed under this Agreement, will include necessary cleaning, adjustments, verification, lubrication and parts replacement. Labor, travel expenses and selected consumables parts* (list of parts available upon customer request) will be included during the Premium PM visit at no additional cost to the customer. The extended Warranty Includes all labor and parts (excluding consumables outside of PM) necessary to restore the products to operating specifications. A travel zone charge is added to the contract to cover travel costs. In the event of a covered product failure, SSI will use its best effort to provide on-demand service.

Premium Total Coverage

This level of agreement provides the customer with a level of coverage includes all labor and non-consumable parts, a Premium PM visit, and in addition provides for the replacement of consumable parts outside of a PM visit at no additional cost to the buyer. Use of this level of Service will be monitored by SSI and in the event that the buyer's use does not exceed two visits during the effective dates of the agreement, the buyer will be entitled to an agreed upon rebate at the end of the agreement term. This rebate must be applied to the purchase of future service agreements or other services offered by SSI.

Sales Quotation - please reference the quotation when submitting purchase order.

Line Item Descriptions

Product # Description

GC-2010 Plus_

220-94839-42 GC-2010PLUS A

GC-2010 with one split/splitless inlet and no detector

220-94850-21 ECD 2010Plus (Domestically Foiled Cell)

Electron Capture Detector for GC-2010 Plus with electronic APC detector gas control

221-72315-58 AOC-20I, WITH POWER SUPPLY, GC-2010, NEW

The AOC 20i is our latest fully automated, liquid sample injection system. The AOC 20i uses a 10ul, 50ul, or 250ul syringe to deliver 0.1 to 200ul of sample to the GC inlet. It can be programmed to introduce a sample in a variety of modes: traditional, solvent flush or solvent flush with air gap and second solvent. It allows for full control of sampling speed, injection speed and plunger speed. Comes with a six sample 2ml vial rack and two, 4 ml, solvent rinse and waste vials. A 12 sample rack is available and sold separately. Comes complete with 10ul syringe and start up supplies including 6, 4ml and 8, 2 ml vials.

221-72300-58 AOC-20S, GC-17/GC-2010/GC-2014, ROHS

Robotic sample tray for the AOC-20i. Holds and delivers up to 150 1.5mL vials or 96 4ml vials to the AOC-20i. It is operated through the AOC-20i keyboard, Class-VP, GCsolutions or GCMSsolution software packages.

221-45622-91 RACK, SAMPLE 12 POSITION,AOC-20I

12-position long rack for use with AOC-20i

221-76192-30 SH-Rtx-5Sil MS Cap. Column 30x0.32x0.25

I&F

I&F Installation (setup/checkout) and operational familiarization of hardware and software.

A&T

System must be sent through our Systems Integration and Testing for installation of hardware or special testing.

1YW 1 YEAR WARRANTY

1 YEAR WARRANTY

Data Products1

223-62450-92 Shim GC Driver for OpenLAB CDS EZChrom Edition(Single System license)

Optional Item Descriptions

Product # Description

Computers/Printers

220-97318-30 Standard Workstation PC - Win 7 Pro 64bit

Shimadzu Standard Workstation Mini tower PC with Intel® Four core Xenon processor (3.30GHz/1600MHz DDR3/8MB w/ HD Graphics).

220-97321-10 Dell 24" Widescreen Flat Panel

24" Widescreen LCD display, resolution to 1920 x 1080, contrast ratio (typical): 1000:1. Brightness (typical): 250 cd/m2, 0.277 mm pixel pitch.

Limited warranty: Three years Advanced Portable Exchange through Dell.

Terms and Conditions

SALES AGREEMENT

The sales agreement ("Sales Agreement"), as referenced herein below, shall mean and refer to these General Terms and Conditions of Sale ("General Terms and Conditions of Sale"), together with such other documents concerning the purchase of equipment and/or Products designed and/or manufactured by Shimadzu ("Products"), which documents have been or will be executed by and between Shimadzu Scientific Instruments, Inc. ("SSI") and the individual or entity identified therein as the purchaser of said Products ("Buyer"). The documents that comprise the Sales Agreement may include, but are not limited to: these General Terms and Conditions of Sale; price quote provided by SSI; purchase order issued by Buyer as modified and accepted by SSI; bill of sale for Products; bill of lading issued for the shipment of Products; and product invoice. **All Products except designated CL versions of HPLC and LCMS, shall be for research use only and not for use in the diagnosis of disease or other conditions, including a determination of the state of health, in order to cure, mitigate, treat or prevent disease or its sequelae ("Diagnostic Purposes").**

PRICES

The prices set forth in the Sales Agreement:

- (i) are SSI's domestic prices based upon manufacture of the quality and type of Product(s) ordered for shipment to and end use within the United States - all Products shipped for end use outside the United States shall be subject to SSI's international pricing;
- (ii) are subject to revision when interruption, engineering changes or changes in quantity or quality are caused or requested by Buyer; and
- (iii) unless otherwise specified, do not include warranty service or installation outside the United States. Errors in Product pricing or related terms by SSI which may, in SSI's sole discretion, be deemed clerical errors are subject to correction by SSI at any time.

SPECIFICATIONS

Weights and dimensions set forth in Product related sales literature ("Sales Literature") are not guaranteed unless previously certified in writing. SSI may, without affecting the obligations under the Sales Agreement, make what SSI regards in its sole discretion as minor changes to the specifications of the Product or Products delivered under the Sales Agreement from those contained in Sales Literature.

TERMS OF PRODUCT USE

Buyer represents and warrants that the Products have not been purchased for Diagnostic Purposes and that the Buyer will not at any time use the Products for Diagnostic Purposes, except designated CL versions of HPLC and LCMS Products. The Buyer acknowledges that use of the Product for Diagnostic Purposes is cause for Termination of this Agreement, as set forth in the "Contingencies; Force Majeure" section below.

TERMS OF PAYMENT

Subject to credit approval by SSI, terms of payment on the Sales Agreement are net thirty (30) days from date of the invoice unless otherwise specifically stated on the invoice, by check, wire. Payment by credit card is subject to 3% charge back at time of payment. Invoices are payable at par on date due at any place of collection designated by SSI in funds bankable at par. Payment made beyond terms will be subject to simple interest of 1 -1/2% per month on the outstanding balance. All orders are accepted and SSI's obligation to make deliveries, are subject to SSI's right to either:

- (i) require Buyer to make payment of all or any part of the purchase price in advance of delivery of Product(s), or
- (ii) make shipment of Product(s) to Buyer payable C.O.D.

If Buyer fails to make advance payment when requested to do so by SSI or if Buyer is or becomes delinquent in the payment of any sum of any kind due SSI or refuses to accept C.O.D. shipments (whether or not arising out of the Sales Agreement), then SSI shall have the right, in addition to any other remedy to which it may be entitled in law or in equity, to cancel the Sales Agreement, refuse to make further deliveries, and declare immediately due and payable all unpaid amounts for Products and services previously delivered to or performed for Buyer. Each shipment shall be considered a separate and independent transaction and payment therefor shall be made accordingly. Buyer must notify SSI within fifteen (15) days from the invoice date if Buyer has not received the Product(s).

REPOSSESSION

In the event of nonpayment, either of the entire purchase price or a portion thereof, Buyer expressly consents to the right of SSI to reclaim by repossession of any and all Products delivered to Buyer pursuant to the Sales Agreement for which payment has not been made within (90) days of invoice. In the event that SSI elects to exercise its right to reclaim Products by repossessing the same, said election shall be deemed to be in the alternative and not to the exclusion of any other remedy to which SSI may be entitled, at law or in equity. To the extent that SSI successfully reclaims Products, it shall credit Buyer's account for the value of the same, as determined by SSI in its sole discretion. No Products may be reclaimed by repossession unless and until Buyer is provided with prior notice of SSI's intention to elect such remedy. Such notice shall state the date, time and location that Products shall be available for repossession. Such notice shall also provide Buyer with a final opportunity to cure the default of nonpayment within five (5) days of notice to avoid the execution of the remedy of repossession. The costs of repossession, including legal fees and costs of collection, shall be added to Buyer's account.

SECURITY INTEREST

In addition to any other remedies hereunder or otherwise provided at law or in equity, SSI shall have the right, and Buyer hereby grants SSI the right, without further notice to or consent from Buyer, to secure any and all payment obligations of Buyer by recordation of a security interest in the Products that are the subject of the Sales Agreement. Said security interest shall be in the form of a UCC Financing Statement (UCC Form 1) or other form prescribed by contract or applicable law. No UCC Financing Statement recorded for the benefit of SSI will be released unless and until all financial obligations to SSI incurred by Buyer with respect to the Products have been fully satisfied.

SHIPMENTS

(i) The cost of packaging for domestic shipments is included in the quoted price unless otherwise provided. For international shipments or where special packaging is specified or necessary, a charge will be made to cover such expense.

(ii) For shipments to and from places within the United States, all shipments, unless otherwise agreed in writing, shall be FOB point of shipment and title and risk of loss or damage shall pass to Buyer at the point of shipment. The cost of transportation and insurance (if requested by Buyer) shall be borne by Buyer.

(iii) For shipments from the United States to ports and or places outside the United States all shipments are, unless otherwise agreed in writing, FOB Columbia, MD. SSI's obligation to affect shipment of the Products purchased by Buyer shall be fully discharged, and beneficial ownership, legal title and all risk of loss or damage shall pass to Buyer when the Products are made available for shipment to a carrier at the designated FOB location. If shipped FOB Destination, upon arrival Buyer shall be entitled to conduct a reasonable investigation of the Products purchased by it, but all claims for losses due to loss or damage to Products while in transit shall be waived unless made immediately in writing by Buyer to SSI, but not more than (30) thirty days after arrival. If Buyer shall fail or refuse to accept delivery of any of the Products for unverifiable claims for loss or damage to Products occurring while in transit, all sums paid on deposit shall be retained by SSI as liquidated damages, provided, however, that SSI may recover in full its actual damage from Buyer in the event that actual damages exceed the amount retained as liquidated damages.

(iv) All claims for damage or loss of insured shipments shall be immediately communicated, when possible, to SSI at Shimadzu Scientific Instruments, Inc. 7102 Riverwood Drive, Columbia, Maryland 21046-2502 Attn: Customer Service, Phone: (410) 381-1227.

Buyer shall immediately notify delivering carrier of loss or damage to the shipment and SSI will cooperate with Buyer in the adjustment of all claims. Buyer agrees to permit SSI or SSI's representative to inspect damaged Products.

TERMINATION

Upon any termination or cancellation of the Sales Agreement by Buyer (if otherwise specifically permitted by the terms of the Sales Agreement), either in whole or in part, Buyer agrees to promptly pay appropriate termination or cancellation charges invoiced by SSI. At SSI's sole discretion, the termination charge shall be not less than twenty percent (20%) of the total amount of the Sales Agreement.

RETURNED PRODUCTS

All returns must be pre-authorized by SSI and a Return Goods Authorization ("RGA") number must appear on the face of the package. Returned Products will be subject to a restocking charge. If deemed appropriate at SSI's sole discretion, the restocking charge shall be not less than twenty percent (20%) of the total amount of the Sales Agreement.

ALLOCATION OF PRODUCTS

If SSI is unable for any reason to supply the total demands for Products specified in Buyer's order, SSI may allocate its viable supply among any or all buyers, including Buyer, on such basis as SSI may deem fair and practical, without liability for any failure of performance which may result therefrom.

DELIVERY

The scheduled shipping or delivery date shown on the face hereof is SSI's best estimate of the time the Product order will be shipped and SSI assumes no liability for loss, general damages, or special or consequential damages due to delays.

TAXES AND OTHER CHARGES

All taxes on Products, goods and/or services sold under the Sales Agreement, including but not limited to federal, state and local excise, sales or use taxes, shall be borne solely by Buyer. Buyer shall be obligated to pay all taxes set forth on invoices, in accordance with the terms of payment, provided that SSI shall not invoice taxes when within 30 days of placing the order, Buyer has furnished SSI with written proof of exemption from tax in the form of a certificate of exemption or an equivalent document which Buyer represents and warrants is properly completed and validly executed. If, notwithstanding the foregoing, any taxing authority attempts to assess taxes, Buyer shall indemnify and hold harmless SSI from any loss, damage, claim or cause of action, including, but not limited to, tax, interest, penalties and professional fees, related to such attempted assessment and shall make payment to SSI for any such costs paid by SSI and invoiced to Buyer in accordance with the terms of payment.

PATENTS

SSI shall defend any suit or proceeding brought against Buyer so far as based upon an assertion that any Product furnished under the Sales Agreement constitutes a direct infringement of any United States patent having a claim of claims covering solely the Product itself, if notified promptly in writing and given authority, information and assistance (at SSI's expense) for the defense of same, and SSI shall pay all damages and costs awarded therein against Buyer. In the event said Product in such suit is held to constitute infringement and the use of said Product is enjoined, SSI shall, at its own option and at its own expense, either:

- (i) procure for Buyer the right to continue using said Product, (ii) replace the same with a non-infringing Product, (iii) modify it so it becomes non-infringing, or (iv) remove said Product and refund the purchase price and transportation costs thereof.

The foregoing obligations of SSI shall not apply to any infringement claim based upon:

- (i) any use of any Product sold hereunder in any process or in conjunction with any other product, (ii) any Product manufactured to Buyer's design or any Product having a design arising from SSI's compliance with

Buyer's specifications; or (iii) use of any Product sold hereunder, if the Product has been modified or customized by Buyer.

The foregoing sets forth the entire liability of SSI for patent infringement by said Product. If any suit or proceeding is brought against SSI based on claims that the goods manufactured by SSI in compliance with Buyer's specifications and supplied to Buyer directly infringe any fully issued United States patent, then the patent indemnity obligations herein stated with respect to SSI shall reciprocally apply with respect to Buyer.

WARRANTY

Subject to the exceptions and upon the conditions stated below, SSI warrants that the Products sold under the Sales Agreement shall be free from defects in workmanship and materials for one year after shipment of the Products to the original Buyer by SSI (the "Warranty"), and if any such Products should prove to be defective within such one year period, SSI's sole liability (and Buyer's sole and exclusive remedy) shall be, at its option, either (i) to correct by repair or, at SSI election, by replacement with equivalent product any such defective Product, provided that investigation and factory inspection discloses that such defect developed under normal and proper use, or (ii) to refund the purchase price. The exceptions and conditions mentioned above are as follows:

- (i) Components or accessories manufactured by SSI which by their nature are not intended to and will not function for one year are warranted only to give reasonable service for a reasonable time; what constitutes reasonable time and reasonable service shall be determined solely by SSI. A complete list of such components and accessories is maintained at the factory;
- (ii) SSI makes no warranty with respect to components or accessories not manufactured by it, in the event of defect in any such component or accessory SSI will give reasonable assistance to Buyer in obtaining from the respective manufacturer whatever adjustment is authorized by the manufacturer's own warranty;
- (iii) any Product claimed to be defective must, if required by SSI, be returned to the factory, transportation charges prepaid, and will be returned to Buyer with transportation charges collect unless the Product is found to be defective, in which case SSI will pay all transportation charges;
- (iv) if the Product is a reagent or the like, it is warranted only to conform to the quantity and content and for the period (but not in excess of one year) stated on the label at the time of delivery;
- (v) SSI may from time to time produce a special printed warranty with respect to a certain Product, and where applicable, such warranty shall be deemed incorporated herein by reference;
- (vi) SSI shall be released from all obligations under all warranties, whether expressed or implied, if any Product covered hereby is repaired or modified by persons other than its own authorized service personnel unless such repair by others is made with the written consent of SSI; and
- (viii) SSI's obligations pursuant to all warranties, either express or implied, shall be expressly conditioned upon payment in full by Buyer for the Products covered by the warranties. In the event of non-payment, whether for the entire purchase price or a part thereof, SSI shall be released from all obligations under all warranties, either express or implied.

IT IS EXPRESSLY AGREED THAT THIS WARRANTY SHALL BE IN LIEU OF ALL WARRANTIES OR WARRANTY OF ANY NATURE WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF FITNESS AND MERCHANTABILITY, AND THAT NEITHER BUYER NOR SSI SHALL HAVE ANY LIABILITY FOR SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR CAUSE WHATSOEVER, INCLUDING, BUT NOT LIMITED TO LOSS OF USE, LOSS OF DATA, LOSS OF PRODUCTIVITY, LOSS OF BUSINESS, LOSS OF PROFIT, LOSS OF PLANT, EQUIPMENT OR PRODUCTION. THE LIMITATION OF LIABILITY FOR SUCH DAMAGES SHALL BE APPLICABLE EVEN IF SSI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, ARISING OUT OF THE MANUFACTURE, USE, SALE, HANDLING, REPAIR, MAINTENANCE OR REPLACEMENT OF ANY OF THE PRODUCTS SOLD UNDER THE SALES AGREEMENT.

If an SSI Special Warranty (covering a designated item or items) is contained in the manual or is otherwise shipped with such designated item or items, the terms and conditions specified therein are incorporated herein by reference and shall supplement the foregoing warranty. In the event of a conflict between the terms and conditions specified herein and those specified in such Special Warranty, the terms and conditions specified herein shall control. SSI's warranties made in connection with this sale shall not be effective if SSI has determined, in its sole discretion, that Buyer has misused the Products in any manner, has failed to use the Products in accordance with industry standards and practices, or has failed to use the Products in accordance with instructions, if any, furnished by SSI. Representations and warranties made by any person, including dealers and representatives of SSI, which are inconsistent or in conflict with the terms of this warranty, shall not be binding upon SSI unless expressly assumed in a writing that is approved and signed by an authorized officer of SSI. By signing the Sales Agreement, the Buyer specifically acknowledges that no representations or warranties were made by any person, including dealers and representatives of SSI, that the Product may be used for Diagnostic Purposes.

CONTINGENCIES; FORCE MAJEURE

SSI shall be entitled to cancel or rescind the Sales Agreement, without liability for loss or damage resulting therefrom, if:

- (i) any Product covered by the Sales Agreement is purchased for end use outside the United States; (ii) the Buyer breaches any of its representations or warranties found in this Agreement; or
- (ii) the performance of SSI's obligations under the Sales Agreement is any way adversely affected by the occurrence of any contingency beyond the control of either SSI or SSI's suppliers, including but not limited to:
 - (a) war (whether an actual declaration thereof is made or not), sabotage, insurrection, riot, act of a public enemy, or other act of civil disobedience;
 - (b) failure or delay in transportation;
 - (c) act of any government, government agency or subdivision of any government, or any judicial action affecting the terms of the Sales Agreement;
 - (d) labor dispute, shortage of labor, fuel, raw material or technical or yield failure where SSI has exercised ordinary care in the prevention thereof; and
 - (e) accident, fire, explosion, flood, storm or other act of God.

U.S. GOVERNMENT CONTRACTS

If the Products to be furnished under the Sales Agreement are to be used in the performance of a U.S. Government contract or subcontract, and a U.S. Government contract number shall appear on Buyer's order, those clauses of the applicable U.S. Government procurement regulations that are required to be included in U.S. Government contracts and subcontracts shall be incorporated herein by reference, including, without limitation, the Federal Acquisition Regulations and the Fair Labor Standards Act of 1938, as amended.

INDEMNIFICATION:

Buyer shall at its own expense apply for and obtain any permits and inspections required for the installation and/or use of the Products. SSI makes no promise or representation that the Products or related services will conform to any federal, state or local laws, ordinances, regulations, codes or standards, except as particularly specified and agreed upon in writing by an authorized representative of SSI. SSI's Products are not for use in or with any nuclear facility unless specifically so stated by SSI in writing. SSI's Products are not for use for Diagnostic Purposes. SSI shall not be responsible for any losses or damages sustained by Buyer or any other person as a result of improper installation or misapplication of the Products. Buyer shall defend, indemnify and hold harmless SSI and its agents and employees against any loss, damage, claim, suit, liability, judgment or expense (including, without limitation, attorney's fees) arising out of or in connection with any injury, disease or death of persons (including, without limitation, Buyer's employees and agents) or damage to or loss of any property or the environment, or violation of any applicable laws or regulations resulting from or in connection with the sale, transportation, installation, use, or repair of the Products by Buyer or of the information, designs, services or other work supplied to Buyer, whether caused by the concurrent and/or contributory negligence of Buyer, SSI, or any of their agents, employees or suppliers. The obligations, indemnities and covenants contained in this paragraph shall survive the consummation or termination of this transaction.

CONFIDENTIAL INFORMATION

Except as required by law, neither party shall use (except for purposes connected with the performance of its obligations hereunder), divulge or communicate to any third party any information of the other it reasonably knows to be confidential.

FDA REQUIREMENTS

If any Product sold by SSI to Buyer is subject to regulation by the Food and Drug Administration as a device, then as to any such Product, sale and delivery is contingent upon successful completion and processing of a 510(k) notice. If such a 510(k) notice cannot be obtained by SSI, SSI shall have no obligation to deliver the Product.

COMPLIANCE WITH LAWS

Buyer agrees to comply fully with all federal, state, county and local laws, rules and regulations concerning the purchase, sale and use of Products. Without limiting the foregoing, Buyer agrees to comply with any the Export Administration Regulations; Federal Food, Drug & Cosmetics Act; the International Traffic in Arms Regulations of the United States; and the Foreign Corrupt Practices Act of the United States in so far as they apply to the sale of Products. To the extent the Products require license for export, the Products are licensed by the United States for delivery to the ultimate destination as shown on the shipment/invoice address and any contrary diversion may be prohibited by law.

APPLICABLE LAW, JURISDICTION VENUE

The Sales Agreement is made and entered into, and shall be governed, enforced and interpreted in accordance with the laws of the State of Maryland. The Buyer hereby expressly consents to the jurisdiction of the courts of the State of Maryland with regard to all issues and questions of law or fact pertaining to the Sales Agreement. In the event that either party commences litigation to enforce the Sales Agreement, said litigation shall be brought in the courts of Howard County, Maryland. The prevailing party to any such action shall be entitled to an award of all costs and attorney's fees actually incurred.

GENERAL PROVISIONS

The rights and obligations under these General Terms and Conditions of Sale will inure to the benefit of, and be binding upon the parties hereto and their respective heirs, administrators, executors, personal representatives, successors and permitted assigns. No action, failure of action or delay by either party will constitute a waiver of any of its rights or remedies under these General Terms and Conditions of Sale. SSI and Buyer are not, and will not be, joint ventures, partners, agents, servants, or employees or fiduciaries of the other, and do not have the power to bind or obligate the other. The waiver of a breach of any provision does not constitute a waiver of a subsequent breach of the same or different provision. If any of the terms of these General Terms and Conditions of Sale or the Sales Agreement are subsequently or are now illegal, they will be severed without affecting the remaining terms. The section headings are for reference only and will not be considered controlling as to the content and/or interpretation of any section.

ENTIRE AGREEMENT

These General Terms and Conditions of Sale, together with the Sales Agreement, and any attachments, exhibits and supplements specifically referred to in the Sales Agreement, are intended by the parties as a complete and exclusive statement of the terms of their agreement, and supersede all prior agreements, written or oral. No course of prior dealings between the parties and no usage of the trade may be used by Buyer to supplement or explain any term used herein.

END GENERAL TERMS AND CONDITIONS OF SALE

This document contains the number of pages indicated, including all attachments. Authorized signature required on quotation pages

Capillary Gas Chromatograph

GC-2010 Plus

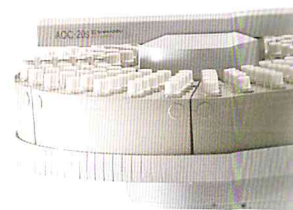


GC-2010 Plus

With Advanced Flow Technology

CAPILLARY GAS CHROMATOGRAPH SYSTEM

The GC-2010 Plus represents a new generation in top end capillary GC analysis, redefining sensitivity limits for trace analysis, fast GC applications, and easy, robust operation. Advanced Flow Technology (AFT) capability further extends the applications scope of the instrument allowing multidimensional GC, capillary backflush, and other specialized flow applications. AFT additionally enables reduced analysis times, enhanced chromatographic resolution, and application-specific configurations without compromising key performance features. The new detector line-up, featuring sensitivity specifications among the highest in the industry, ensures quality data across a broad range of applications.



Advanced Flow Technology ► P.4

- Multi-dimensional system
- Backflush system
- Detector splitting system

Leading Sensitivity ► P.8

- Best-in-class*high-sensitivity detectors

Enhanced Productivity ► P.11

- High-speed analysis
- Backflush
- Rapid oven heating/cooling
- Excellent repeatability
- Gas saver function
- Carrier gas constant linear velocity mode
- Dual-injection system

Work Station [LabSolutions] ► P.16

- Easy Operation
- Better Analysis Productivity
- Comprehensive Basic Functions
- GLP/GMP Regulatory Compliance
- Network Compatibility
- AART Function

Applications ► P.22

- Headspace System
- Liquid Injection/ Headspace/ SPME Analysis System
- Thermal Desorption System
- Pyrolysis System
- Simulated Distillation GC System
- PONA Analysis System

*Per survey result as of April 2009

**For speed, precision and accuracy,
the GC-2010 Plus has just raised
the bar....again!**



Advanced Flow Technology

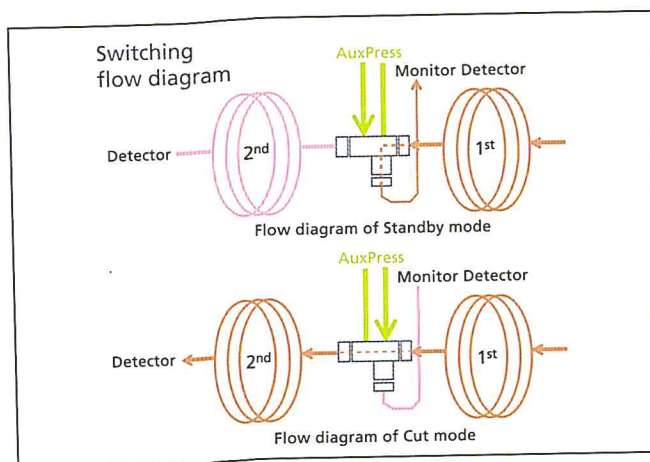
Advanced Flow Technology is Shimadzu's solution to provide enhanced separation power and operational efficiency for applications with complex sample matrices. This enhanced capability is based on the high precision Advanced Flow Control (AFC) of the GC-2010 Plus.

Advanced Flow Technology for high-performance separation

Multi-dimensional GC/GCMS System MDGC/GCMS-2010



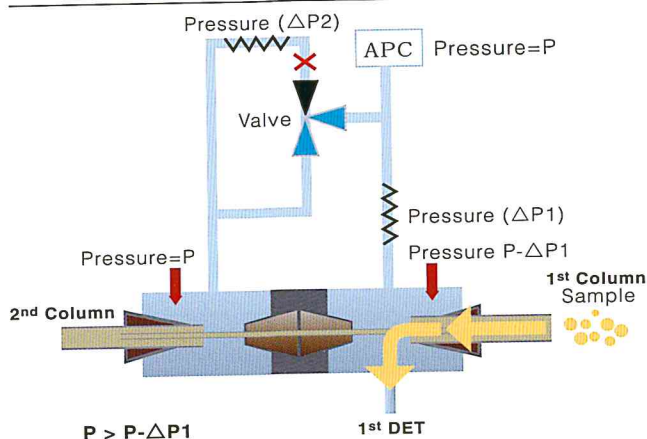
A multi-dimensional GC/GCMS system performs separations using two columns that have different chromatographic selectivity. When components of interest are insufficiently separated on the first column, they can be selectively introduced ("heart-cut") to a second chromatographic column with different selectivity. This enables enhanced chromatographic separation that cannot be attained in conventional single-column analysis. In addition, the precise flow-switching technology, which is supported by a high-precision digital flow controller, ensures heart-cut analysis with the high level of reproducibility demanded of complex capillary GC separations.



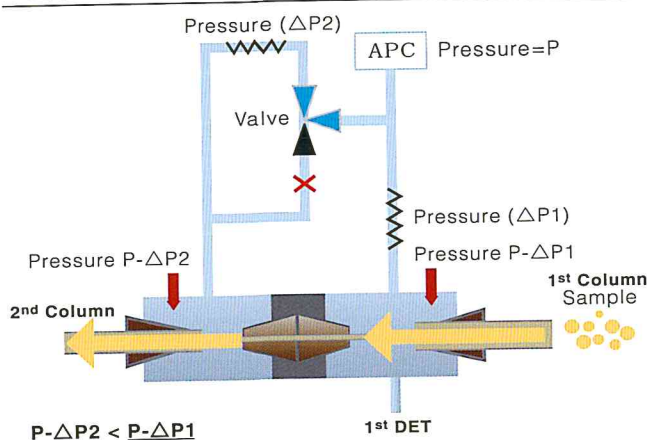
Multi-Deans' Switching

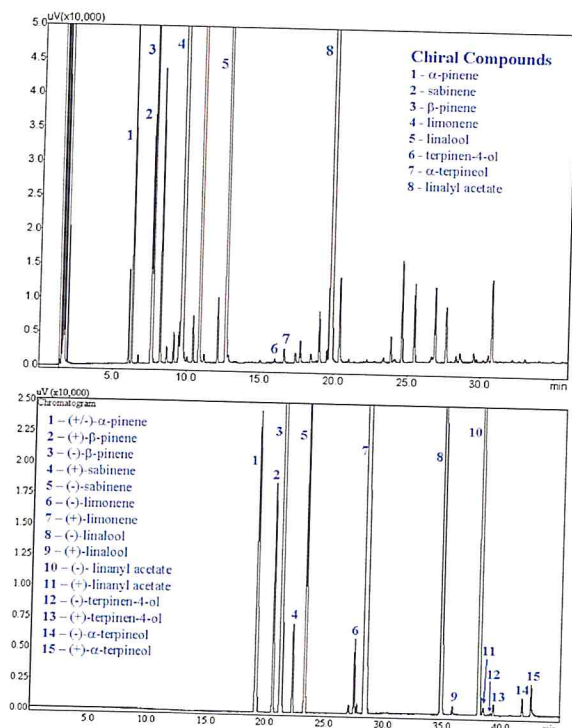
In the past, multidimensional GC has been accomplished using a switching mechanism known as Deans' Switch. However, this system results in such problems as a reduced recovery (sample loss) and fluctuations in retention time after column switching. The MDGC/GCMS-2010 system incorporates multi-Deans switching, a new mechanism that significantly reduces the likelihood of fluctuations in the retention times of components eluted after column switching, even when column switching is performed several times.

• Standby Mode



• Cut Mode





Multi-Switching Analysis of Essential Oil

1st Column : MEGA SE-52 0.25 x 25 m df=0.25 μ m

Oven temp : 50 $^{\circ}$ C - 280 $^{\circ}$ C (3 $^{\circ}$ C/min)

Injector : 250 $^{\circ}$ C

Split ratio : 1 : 100

Monitor FID : 290 $^{\circ}$ C

H₂: 50 mL/min, Air: 400 mL/min, Make-up: 0 mL/min

Switching : 8 times

2nd Column : MEGA DetTBuSililBeta 0.25 x 25 m df=0.25 μ m

Oven temp : 45 $^{\circ}$ C (12.00 min) - 180 $^{\circ}$ C (2 $^{\circ}$ C/min)

1st GC Chromatogram

8 compounds are switched onto the 2nd column.

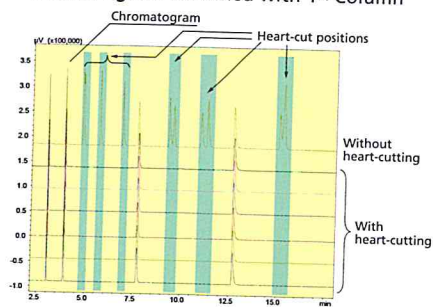
2nd GC Chromatogram

8 compounds are separated into 15 peaks.



Data by
Universita degli Studi di Messina
Prof. Luigi Mondello
Alessandro Casilli
Peter Quinto Tranchida
Danilo Sciarrone

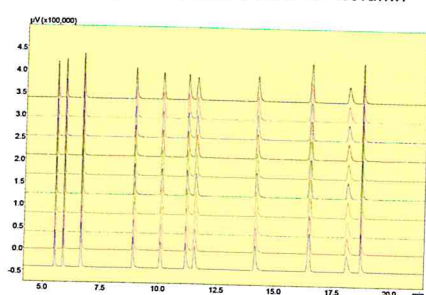
Chromatogram Obtained with 1st Column



Reproducibility of 1st Column

Compound	Area		Retention Time	
	MeOH	tAmOH	MeOH	tAmOH
1	174308	435368	3.008	12.712
2	171031	427495	3.009	12.712
3	173117	433085	3.009	12.712
4	174715	438180	3.009	12.712
5	172315	430744	3.008	12.712
6	174633	436304	3.008	12.712
7	175269	439073	3.009	12.712
8	175863	441410	3.008	12.711
9	172717	430224	3.008	12.712
10	172002	435496	3.008	12.712
Average	173597	434738	3.008	12.712
STDEV	1582	4347	0.00052	0.00032
CV(%)	0.912	1.000	0.017	0.002

Chromatogram Obtained with 2nd Column



Reproducibility of 2nd Column

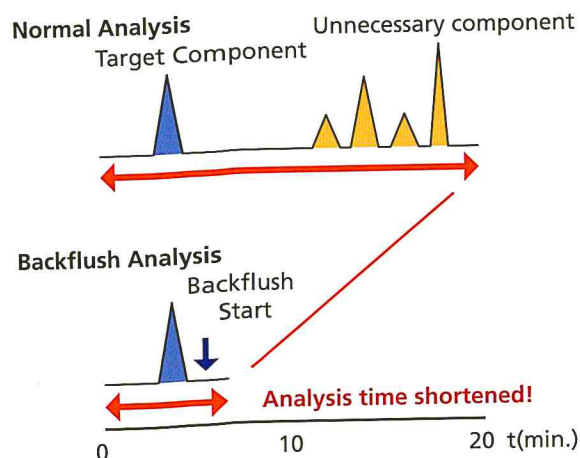
Compound	Area						Retention Time					
	Acetone	IPA	ETBE	Bz	TAME	nBuOH	Acetone	IPA	ETBE	Bz	TAME	nBuOH
1	241902	258122	322917	584033	302735	341100	5.515	5.880	11.563	16.501	18.137	18.733
2	237073	253283	316835	572472	296948	334684	5.516	5.880	11.565	16.501	18.136	18.734
3	240294	256361	321149	580369	301337	339373	5.516	5.881	11.565	16.503	18.138	18.733
4	242492	259231	324511	587335	304680	343516	5.515	5.881	11.565	16.502	18.136	18.732
5	238727	254946	318735	576768	299044	337067	5.515	5.880	11.563	16.500	18.136	18.733
6	242091	258606	323204	584763	303246	342028	5.515	5.880	11.563	16.503	18.137	18.732
7	243402	260304	325211	588083	305140	344235	5.515	5.880	11.563	16.502	18.135	18.731
8	241572	260384	326286	588626	301903	337481	5.515	5.880	11.563	16.501	18.135	18.732
9	239256	255374	319324	576796	299153	336898	5.515	5.880	11.563	16.501	18.135	18.733
10	238508	254885	319167	576955	299617	337750	5.515	5.880	11.564	16.502	18.137	18.730
Average	240532	257150	321734	581620	301380	339413	5.515	5.880	11.564	16.502	18.136	18.732
STDEV	2067.56	2506.10	3159.04	5706.12	2662.17	3170.38	0.00037	0.00049	0.00067	0.00076	0.00108	0.00106
CV	0.860	0.975	0.982	0.981	0.883	0.934	0.007	0.008	0.006	0.005	0.006	0.006

Advanced Flow Technology for Enhanced Productivity and Confident Identification

Backflush System

The backflush system reverses the carrier gas flow after the target compounds have eluted, to discharge residual late eluting components in the column through the injection port split vent.

Backflush shortens the analysis time and improves productivity. In addition, high-boiling point components are discharged efficiently to reduce the bakeout time (elution time), and thus prevent column deterioration, contamination, and retention time shifts.

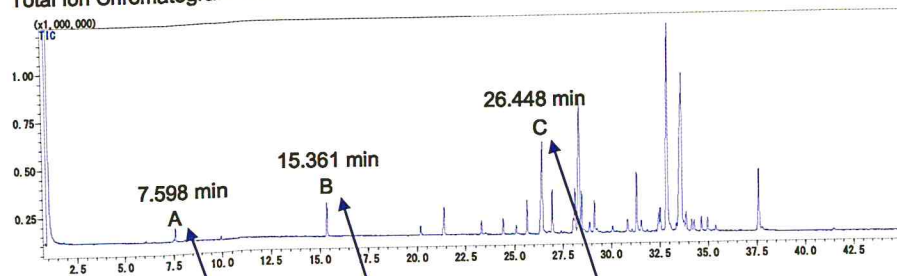


Detector Splitting System

Compounds eluting from an analytical column may be split to multiple detectors to obtain multiple chromatograms. Offering abundant information in a single analysis, this system saves time and money. In addition, with concurrent use of selective detectors, confidence in peak identity is improved. We recommend this system to GCMS users wanting to confirm compound classes using detector selectivity.

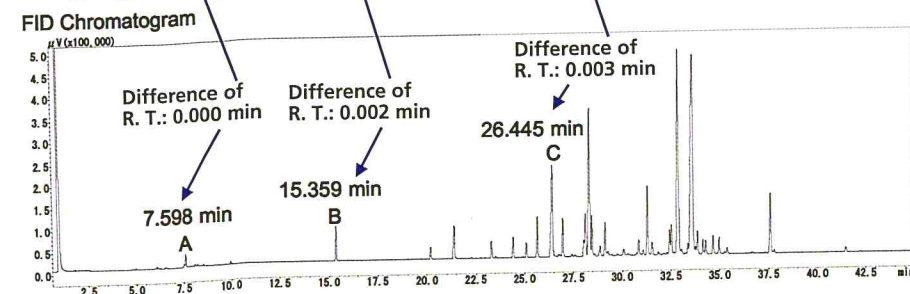
For analysis of natural products such as flavor compounds, it is efficient to use a combination of FID and MS. FID has a wide dynamic range for quantitative analysis, while MS has unmatched capability for qualitative identification. Using the detector splitting system, a TIC (Total Ion Chromatogram) and an FID chromatogram of the same pattern can be obtained simultaneously with one analysis.

Total Ion Chromatogram TIC



Qualitative analysis by MS

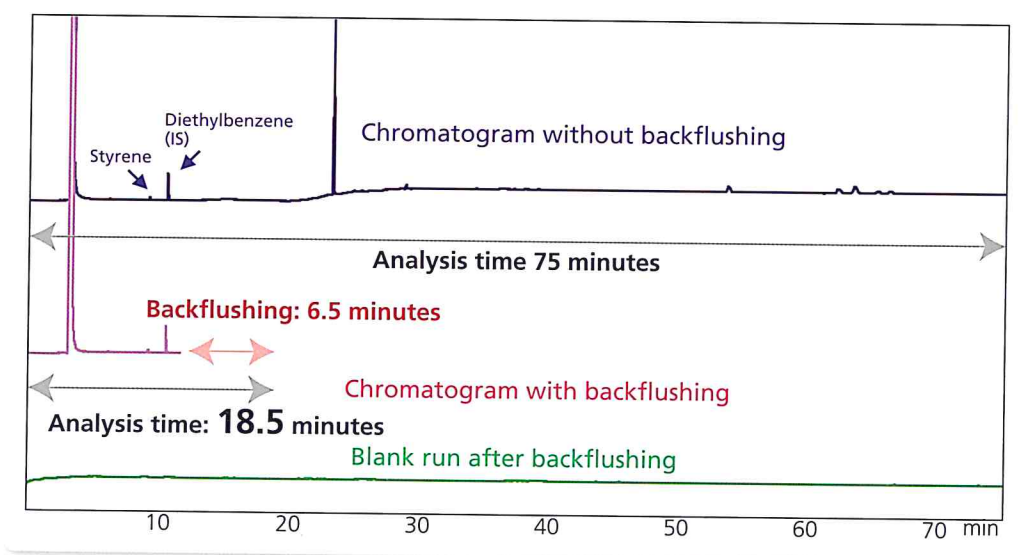
FID Chromatogram



Quantitative analysis by FID:
Wide quantitation response range

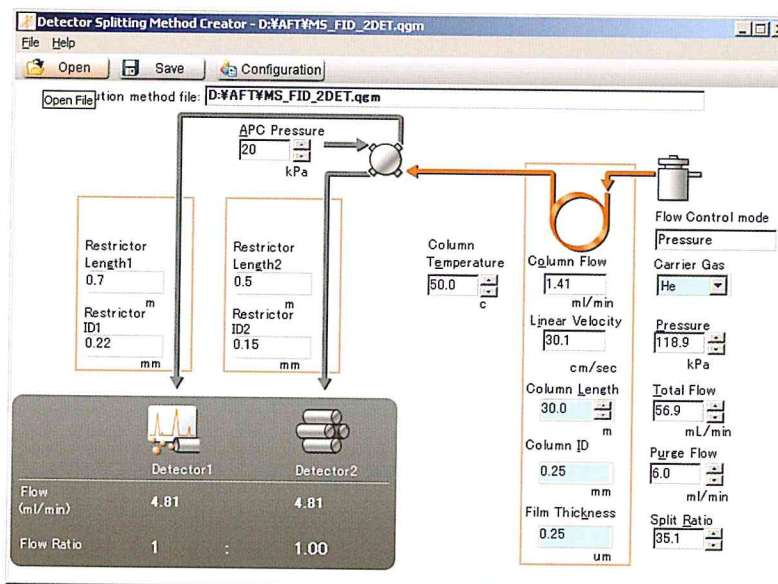
AFT Software

The Intuitive and easy-to-use Advanced Flow Technology Software is included with each AFT system. Both the backflushing and detector splitting systems are controlled with this software.



Analysis of Volatile Compounds in Polystyrene

Backflushing was started 12 minutes after target substances were eluted. Analysis time, including the time for discharging unwanted substances, could be reduced from 75 minutes to 18.5 minutes.



Advanced Flow Technology software download site
<http://www.shimadzu.com/products/lab/gc/index.html>

Industry Leading Detector Sensitivity

Responding to the ever increasing demands for trace level analysis, our new detectors boast the highest sensitivity in the industry. The new Flame Photometric Detector (FPD) and Flame Ionization Detector (FID) show significantly increased sensitivity.

Flame Ionization Detector

FID-2010 Plus

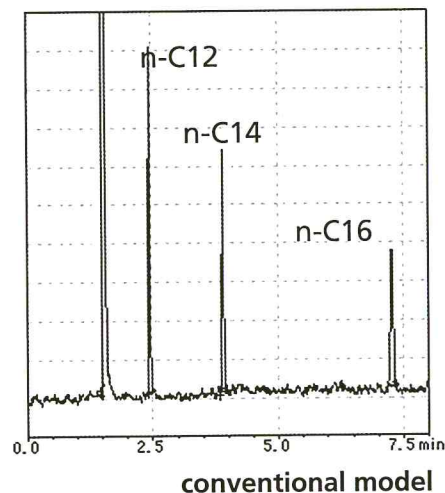
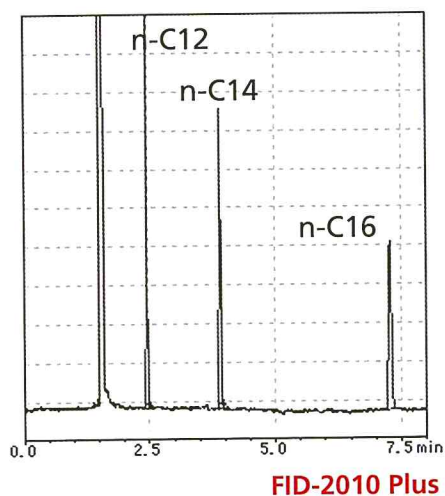
Minimum Detected Quantity: 1.5 pgC/s*

FID-2010 Plus gives you the world's highest FID sensitivity with clean detector gas flows and the latest noise reduction technology.

- High-sensitivity has been achieved by thorough cleaning of detector gas lines and the latest noise-reduction technology.
- Automatic ignition, re-ignition, and flame extinguishing functions
- Feedback function reduces gas supply pressure to zero when the hydrogen flame is extinguished.
- Hydrogen connector joints have reverse threads to prevent incorrect pipe connections.
- Optional flame monitor can be mounted.

*For high sensitivity analyses, high purity air (Impurity of hydrocarbons <1 ppm) is required.
(Tubing and gas pressure regulator must be compliant with high-purity gas use.)

Analysis of n-C12, 14, 16 / n-heptane solution



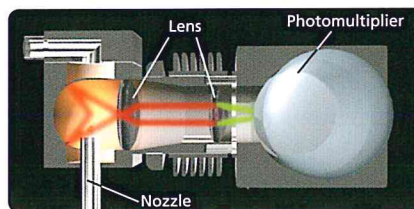
Flame Photometric Detector

FPD-2010 Plus

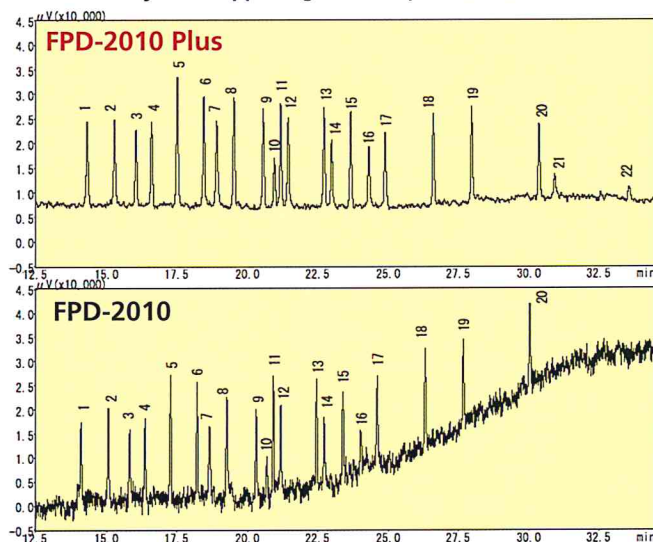
A new FPD design featuring improved flame stability and double focusing optics has produced an FPD with the world's highest sensitivity. This has all been achieved in a compact design that fits within the detector bay.

The dual-focus system adds a lens to the interference filter for efficient light collection at the photomultiplier light receptor.

Minimum Detected Quantity:
55 fgP/s (phosphorus compounds)
3 pgS/s (sulfur compounds)

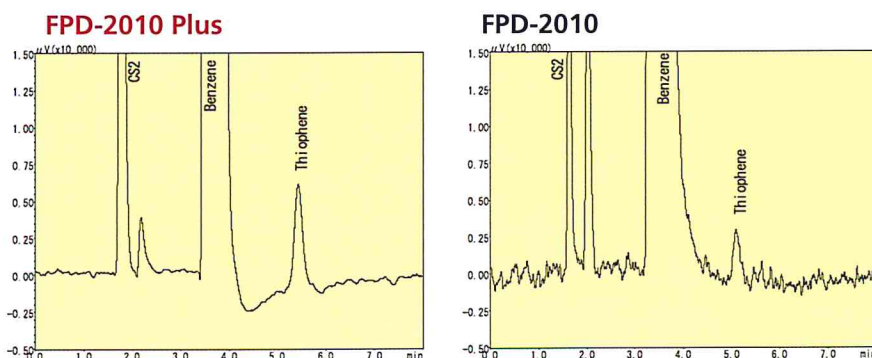


P mode: Analysis of 5 ppb Organo-Phosphorus Pesticides



1. Ethoprophos
2. Phorate
3. Thiometon
4. Terbufos
5. Etrifos
6. Dichlofenthion
7. Dimethoate
8. Tolclophos-methyl
9. Chlorpyrifos
10. Formothion
11. Fenthion(MPP)
12. Fenitrothion(MEP)
13. Isofenphos
14. Phenthoate(PAP)
15. Prothiofos
16. Methidathion(DMTP)
17. Butamifos
18. Sulprofos
19. Fensulfothion
20. EPN
21. Phosmet
22. Pyraclofos

S Mode: Analysis of 20 ppb Thiophene in Benzene



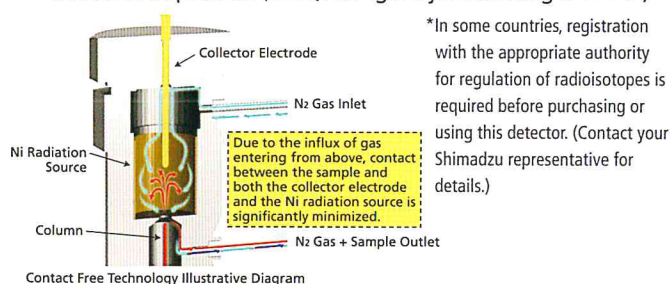
Industry Leading Detector Sensitivity

Electron Capture Detector*

ECD-2010 Exceed

Minimum Detected Quantity: 4.0 fg/s

- A highly sensitive and selective detector for the analysis of electrophilic compounds.
- Novel "Contact Free Technology" was incorporated into the design of the ECD-2010 Exceed. This new, proprietary technology protects the radiation source and the collector electrode from the damaging effects of matrix contamination often associated with environmental samples.
- By optimizing the ECD cell structure, analytical performance has been improved. (MDQ: 4.0 fg/s Dynamic range: 1×10^5)



Thermal Conductivity Detector

TCD-2010 Plus

Sensitivity: 20000 mV mL/mg(decane)

- For analysis of gases and concentrated organic compounds.
- Microvolume cell optimized for capillary column analysis.
- Short stabilization time.

Flame Thermionic Detector (NPD)

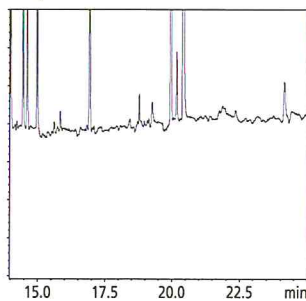
FTD-2010 Plus

Minimum Detected Quantity: 0.1 pgN/sec

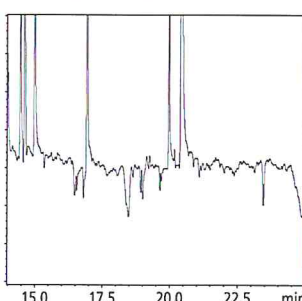
- For analysis of organo nitrogen and phosphorus compounds, such as residual pesticides.
- Improved collector design reduces negative peaks from impurity components.
- No tools needed for collector replacement.
- Alkali source regeneration kit (option) reduces operational costs.
- Hydrogen connector fittings have reverse threads to prevent pipe connections.

Improved Collector of FTD-2010 Plus Reduces Negative Peaks.

Improved collector – zoom



Standard collector – zoom



Barrier Discharge Ionization Detector

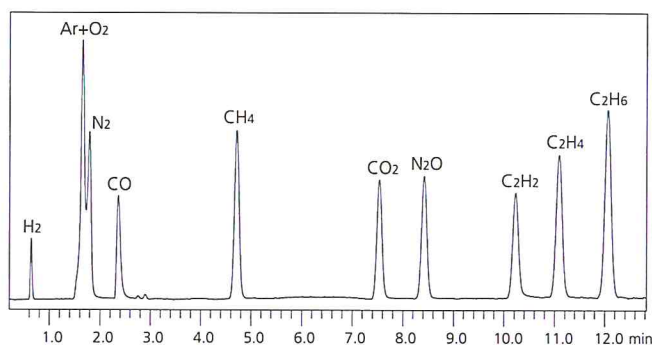
BID-2010 Plus

Minimum Detected Quantity: 1 pgC/s *

* Calculated by the same method used for MDQ of the Shimadzu FID.

The barrier discharge ionization detector (BID) is a highly sensitive device that creates ionization from a Helium-based, dielectric barrier discharge plasma.

- The extremely high photon energy of this plasma ionizes the sample components, enabling high-sensitivity detection.
- It can detect all organic and inorganic compounds, with the exception of He and Ne, with no difference in sensitivity.
- The detector electrode is not degraded, achieving long-term analytical stability.



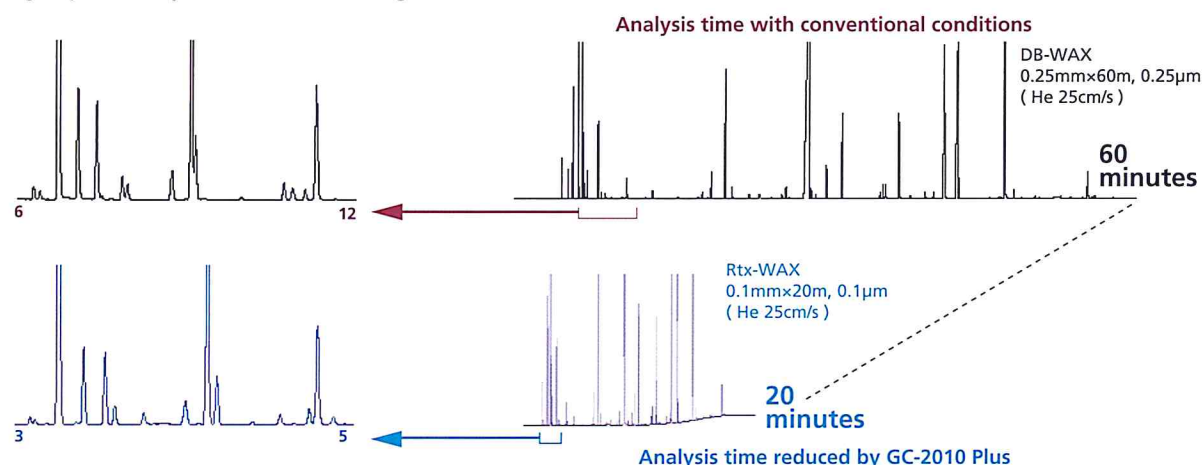
Please refer to Tracera brochure (C184-E032)

Highly Evolved Design Delivers Analytical Productivity

High-Speed Analysis

High-speed analysis with narrow bore capillary columns reduces analysis time and improves sample throughput. The new-generation digital flow rate controller (AFC) provides 970 kPa maximum operating pressure and 1200 mL/min total flow to support high-speed analysis.

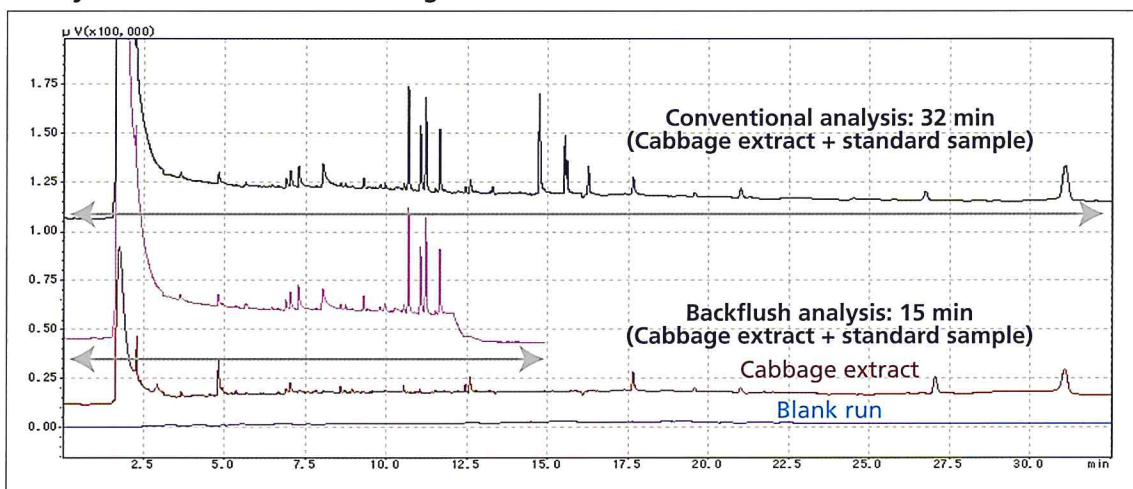
High-Speed Analysis of Coffee Flavoring



Backflush Reduces Analysis Time

The Backflush technique is effective in capillary GC analysis when early-eluting target compounds occur in a sample along with higher boiling components not of interest to the analysis.

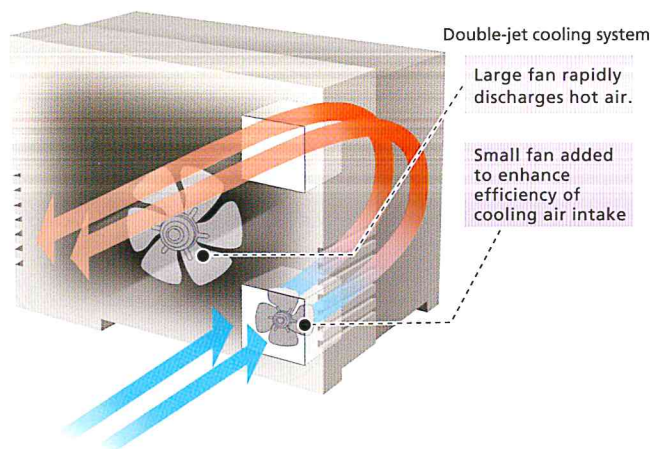
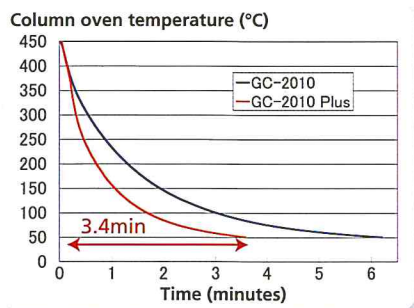
Analysis of Pesticides in Cabbage



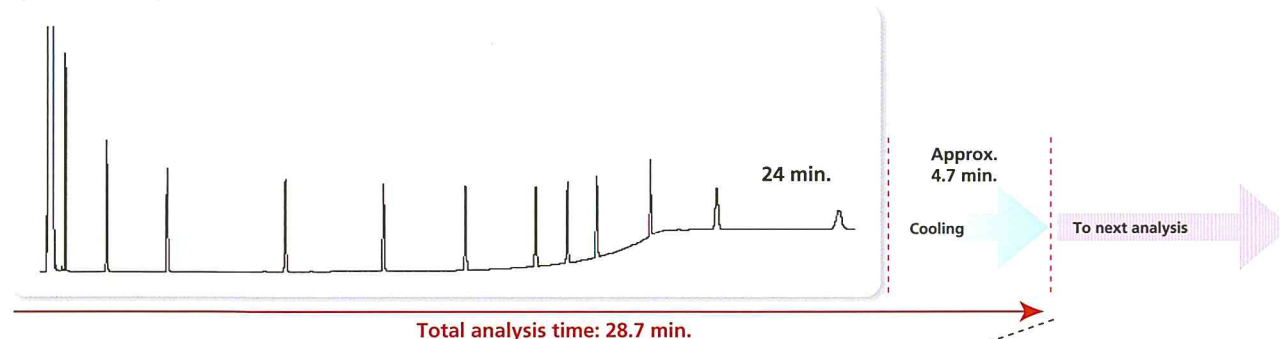
Reduction of
analysis time
by 53%

Rapid Oven Heating*/ Cooling

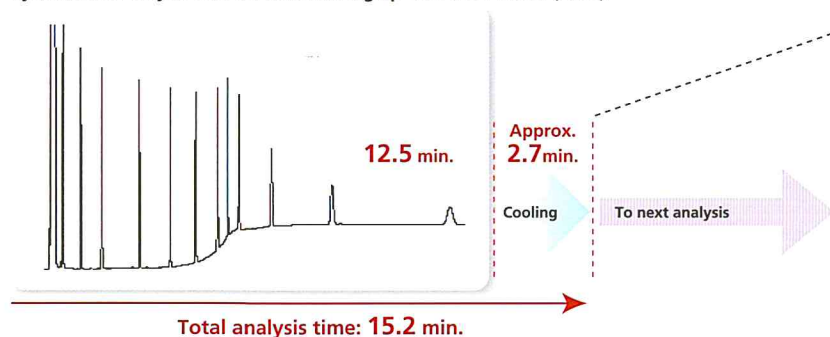
The GC-2010 Plus incorporates a double-jet cooling system, consisting of an exhaust fan to discharge hot air and an intake fan to draw in cooling air. The system enables the reduction of cooling time from 450°C to 50°C in 3.4 min.



Hydrocarbon analysis in conventional mode



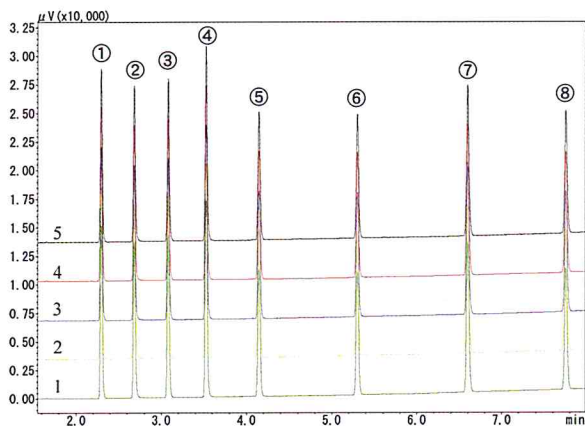
Hydrocarbon analysis with GC-2010 Plus high power oven model (230V)



*Rapid oven heating is available with the high power oven (230V model) only.

Repeatability Resetting the Limits

All units including the column oven, flow controller, and sample injection unit are comprehensively optimized at the design stage to achieve world-class precision.



Analysis of Grob Test Mixture (Solvent: acetone, each 100 ppm)

The large vaporization capacity ensures excellent precision, even when using solvents that are highly volatile upon injection, such as acetone. Long-term stability of retention time is realized by the new room temperature compensation technology built into each AFC (Advanced Flow Controller).

Repeatability of Retention Time and Area

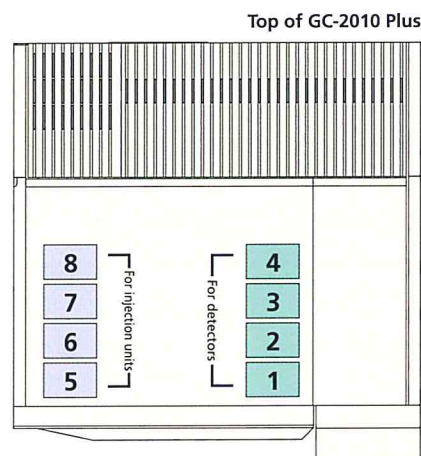
	Average RT	CV% RT	Average Area	CV% Area
1. n-Decane	2.29436	0.0043	23429.8	0.1870
2. n-Octyl Alcohol	2.68199	0.0031	22252.9	0.3020
3. n- Undecane	3.08074	0.0023	23997.2	0.2236
4. 2,6-Dimethylaniline	3.52498	0.0045	29616.6	0.2502
5. Methyl n-Nonanoate	4.14567	0.0041	20563.3	0.2262
6. Methyl n-Capratae	5.30144	0.0042	21484.8	0.0744
7. Dicyclohexylamine	6.60017	0.0017	28067.3	0.1894
8. Methyl Laurate	7.75542	0.0024	22759.5	0.1638

Gas Saver Function Reduces Carrier Gas Usage

The GC-2010 Plus features a gas saving function that considerably reduces carrier gas consumption. In the split/ splitless sample injection mode, the split ratio can be reduced after injection and during stand-by.

Simultaneously install up to three injection units and up to four detectors

Select from three injection units and five detector types to suit the needs of your analysis. Options such as injection units, detectors and autoinjectors can easily be retrofitted.



Split/Splitless Injector

SPL-2010 Plus

- New design reduces the possibility of carry over.
- Standard configuration supports high-speed GC with narrow bore capillary columns.
- Gas saver function reduces split gas consumption.
- Permits high-pressure injection mode.

On-Column/Programmed Temperature Vaporization Injector

OCI/PTV-2010

- Configured for either cool, on-column injection (OCI) or programmed temperature vaporization (PTV) injection mode.
- Uses inert quartz PTV inserts.
- An optional OCI insert allows connecting a narrow-bore capillary column directly to the injector without a 0.53mm pre-column.
- Supports analysis of very high-boiling compounds (alkanes up to C₁₀₀).

Direct Injection Unit

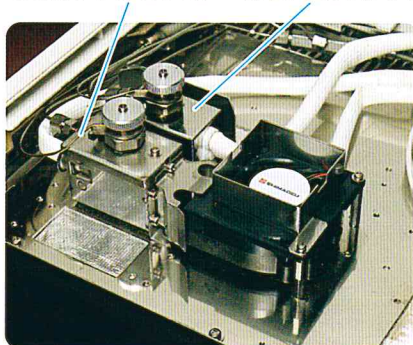
WBI-2010 Plus

- Septum purge flow channel prevents solvent tailing.
- Uses the same glass inserts as splitless analysis to simplify use. (Patented)
 - * Easily modified for packed column use.

SPL-2010 Plus

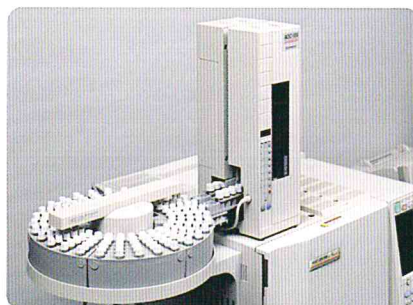


OCI/PTV-2010 WBI-2010 Plus



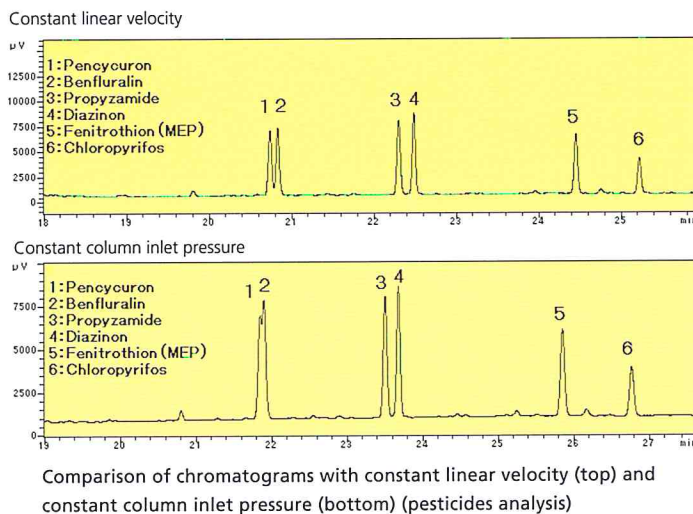
Dual Injection System

A dual injector system can be configured with a combination of two AOC-20i injectors and one AOC-20s sample carousel. Two-line simultaneous injection doubles the sample throughput to improve productivity.



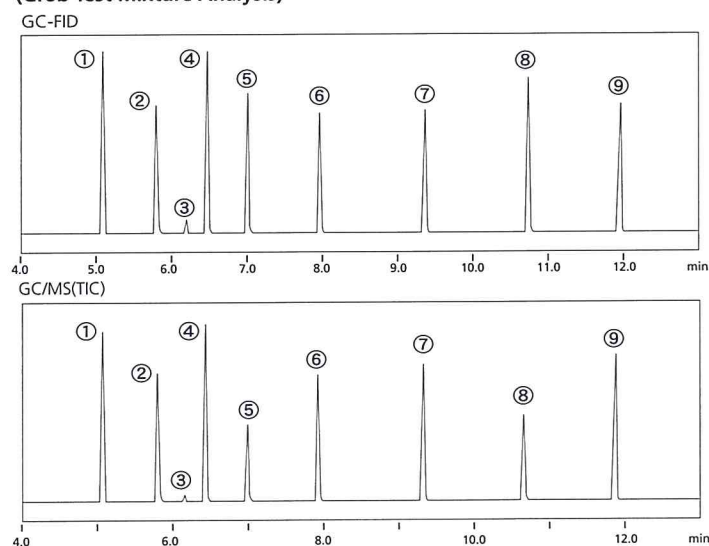
Constant Linear Velocity Mode Quickly Determines Separation Conditions

Shimadzu's approach to carrier gas control is based on the carrier gas linear velocity, which directly correlates to the separation performance. Method transfer from GC to GCMS or helium to hydrogen carrier is greatly facilitated.



Using the same type of column and setting the same carrier gas linear velocity values results in a virtually identical separation profile for GC and GCMS.

Comparison of GC-FID and GC/MS-TIC Chromatograms (Grob Test Mixture Analysis)



Work Station *LabSolutions Version 5*

Powerful LabSolutions Software for Increased Productivity and Easy Operation

The LabSolutions series is the next-generation workstation software that integrates GC control, LC control, and other improvements in functionality, while maintaining compatibility with previous GCsolution products. It offers sophisticated functionality, easy operation, and highly expandable and customizable report functions. In addition to inheriting these and other concepts from GCsolution, LabSolutions shares a common operating environment.

Easy Operation

- LabSolutions offers both ease of operation and extensive functionality by utilizing a common operating environment shared throughout the LabSolutions series, including such features as an Assistant Bar and Data Explorer, to provide a user interface that can be operated intuitively and learned in a short time.
- The new data browser is convenient for comparing multiple sets of data by enabling access to chromatograms, peak information, and quantitation results from multiple data files at the same time.
- Windows for operating the instrument and assistant bar panels for navigating operations can be customized according to the workflow where the system is being used.

Better Analysis Productivity

- Handles control and data processing for up to four GC systems (up to 16 GC systems can be registered).
(GC-2010 Plus, GC-2010, GC-2014, GC-2025, GC-14B, AOC-20i/s, HS-20)
(Note: Not compatible with PONA solution or MDGCsolution. Please use the previous GCsolution products.)
- Supports simultaneous processing of two samples on a single instrument and a dual injection system.
- Automatically controls all phases of operation, from startup and system check, to baseline check, system suitability test, associated automatic pass/fail judgment and action functions, and shutdown, to minimize the work required for analysis.
- Simultaneously controls GC and LC systems from a single computer. Integrating the operating environment for GC and LC analysis reduces the time required for analyst training.

Comprehensive Basic Functions

- Inherits the popular, proven and robust Chromatopac and GCsolution integration algorithm.
- Comprehensive functions for peak identification, quantitation, and data comparison.
- Flexible report generation functions with operation similar to MS Word.
Summary report output is possible.

GLP/GMP Regulatory Compliance

- Full support of user-management functions and GC-2010 Plus self-diagnostic functions to enhance data reliability. Supports rigorous GLP/GMP requirements, including audit-trail functions for all method parameters.
- System management functions, such as system policy settings, user management, log browser, and audit trail functions, provide full functionality for compliance with U.S. FDA 21 CFR Part 11 (regulations regarding electronic records and electronic signatures).

Network Compatibility

- Enables effective use of a network environment, such as with in-office data analysis and remote access functions.
- CLASS-Agent enables file sharing and centralized data management.

AART (Automatic Adjustment of Retention Time) Function for Automatically Batch-Correcting the Retention Time of Target Components

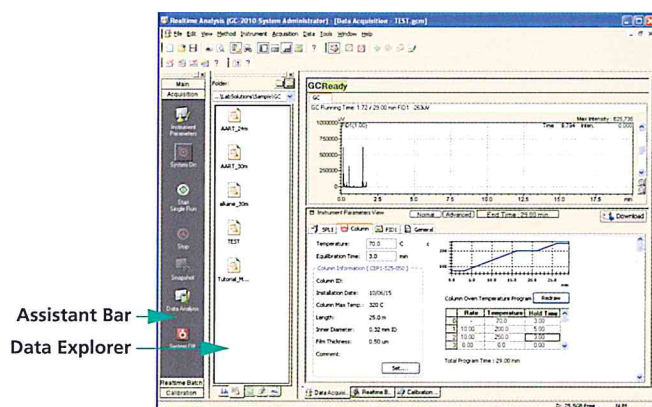
- The retention time of the target component must be corrected to match changes in the column's state, for example, when the capillary column is replaced. The retention times of target components can be calculated and batch-corrected from retention index values of pre-registered target components and the retention time measurement values of n-alkane by using the AART (Automatic Adjustment of Retention Time) function.

User Interface

The latest Windows technologies, with a user interface that includes drag-and-drop and right-click menus, offer multi-functionality and simple, quick, intuitive operation.

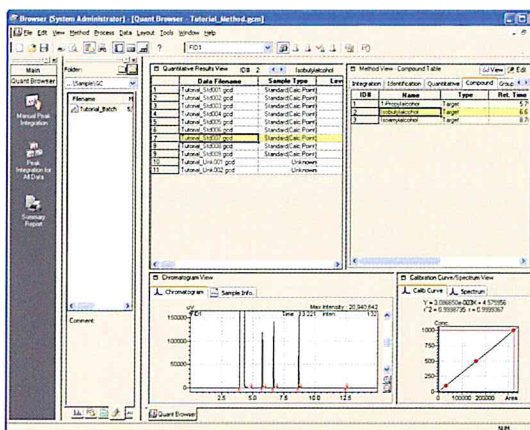
Easy-to-Operate Assistant Bar and Data Explorer

- Navigate operations with Assistant Bar. Even novices can easily conduct analysis or re-analysis simply by sequentially clicking on icons.
- Data Explorer displays a list of files by type. Intuitively handle file operations by double-clicking or drag-and-drop.



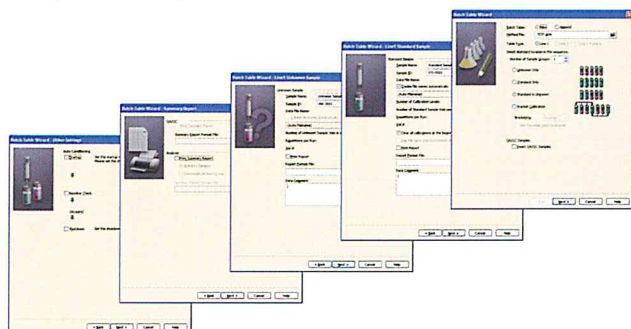
Even Confirming Multiple Analytical Results Is Easy with the Quant Browser

- The quant browser displays the large amounts of analytical data and calculated quantitation results obtained simultaneously from batch analyses to allow more efficient analysis.
- Since each chromatogram and quantitation result is linked to respective rows in the Quantitative Results Table, the necessary information about each component in the data files can be accessed easily by selecting a row in the table.
- It is also easy to change peak integration parameters or other parameters to perform post-run analyses or re-plot calibration curves for multiple datasets at the same time.



Batch Table Wizard Simplifies Consecutive Analyses

- Easily create batch tables for consecutive analysis of multiple samples using the Wizard.
- Simply fill in the prompts in the Wizard to create multi-point calibration curves and batch tables for repeated analyses.



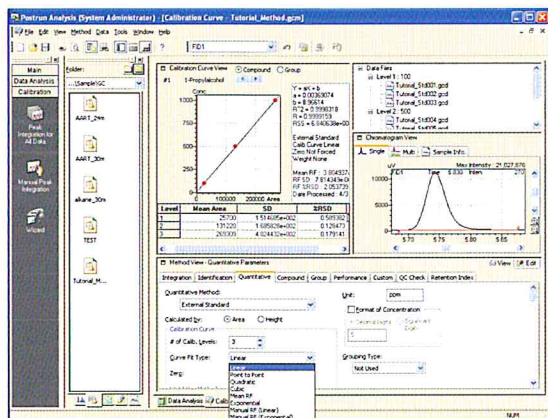
Work Station

Data Analysis/Report Generation

Builds on the popular Chromatopac and GCsolution basic functions, including integration algorithms. Offers comprehensive functions for identification, quantitation, data comparison, and report generation.

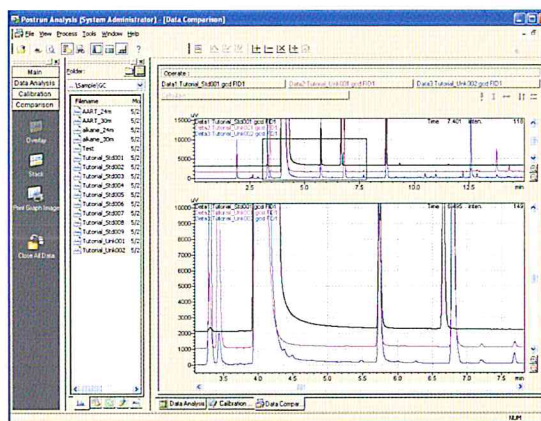
Identification and Quantitation Functions Offer Full Assortment of Calibration Curve Types and Operations

- Support for six quantitation methods, such as external and internal standard methods, and seven types of calibration curves, including linear, point to point and polynomial fits, ensures compatibility with an extensive range of requirements.
- Calibration curves can be created by dragging and dropping data files into the calibration window.



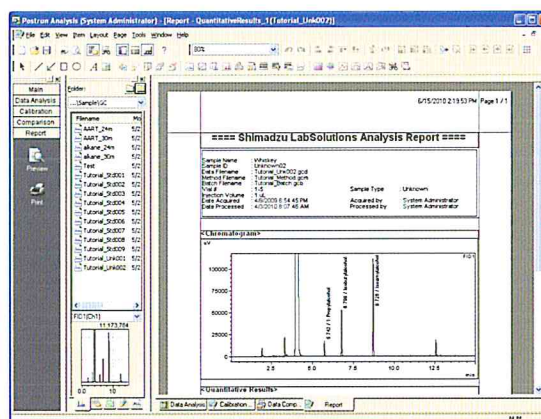
Data Comparison Function

- Display and compare up to 16 chromatograms.
- Convenient for comparison of previous data and investigation of changes in time-course data.
- Select superimposed or split-screen display.
- Conduct detailed analysis using addition, subtraction, differential, and second-order differential operations.



Flexible Report Generation Functions

- Highly flexible report generation.
- Paste and freely edit chromatograms, peak tables, and other report items.
- Save report formats as templates.
- LabSolutions includes a PDF output function to allow outputting analytical reports as PDF files, which helps promote a more eco-friendly paperless laboratory.

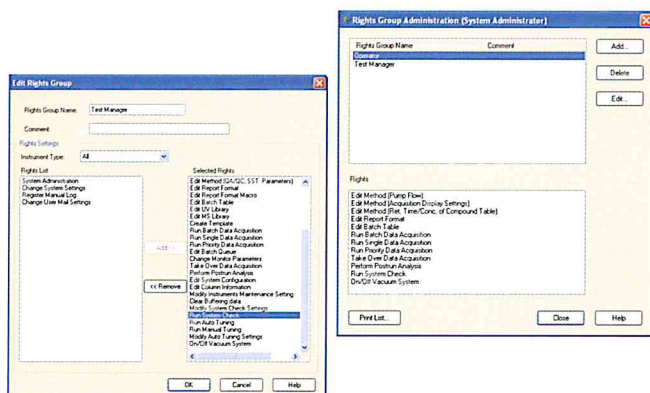


GLP/GMP Regulatory Compliance

To be compliant with management requirements and regulations such as GLP/GMP, a variety of sophisticated demands related to: analyzer reliability, method development, analysis method validation, and electronic file management must be satisfied to ensure data integrity. LabSolutions strongly supports GLP/GMP with various validation functions, user-management functions and so on. In addition, 21 CFR Part 11 compliance support functions are also available(option).

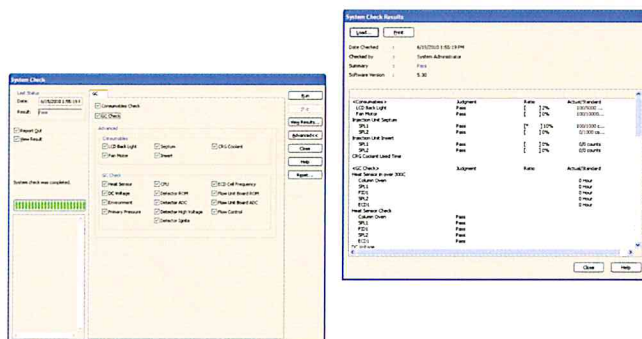
User Management Functions to Control User Access

- Limit user access to operations by Test manager and Operator default user groups.
- Add or edit groups to create security that matches your laboratory workflow.



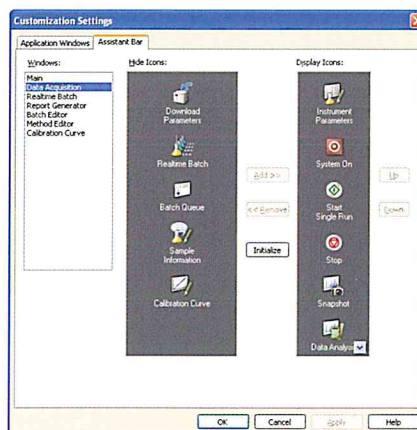
Validation Support

- Fully supports the GC-2010 Plus self-diagnostic functions. Periodic checks of the GC status support superior analysis and greater confidence in your results.
- Includes software validation functions to check for software modifications.
- Includes QA/QC functions that enable pass/fail judgments based on repeatability of component concentrations, recovery rates, and concentration upper and lower limit checks, and system suitability functions to perform various statistical calculations, such as component concentrations, averages of peak areas and other values, standard deviations, and %RSD values.



Customization Functions Provide an Optimized Operating Environment Tailored to the Workflow

- Allows customizing the main launcher instrument selection menu, assistant bar, tool bar, and application window. Numerical formats and rounding processes for areas, heights, concentrations, column performance calculation results, and other values can be defined for the entire system.



Network Capability

Using a network, such as an internal LAN, allows sharing data, analysis methods, and other file information and managing data in a central location. In addition to serving its fundamental role as workstation software, LabSolutions also offers a range of network tools to improve analytical productivity.

CLASS-Agent Data Management System

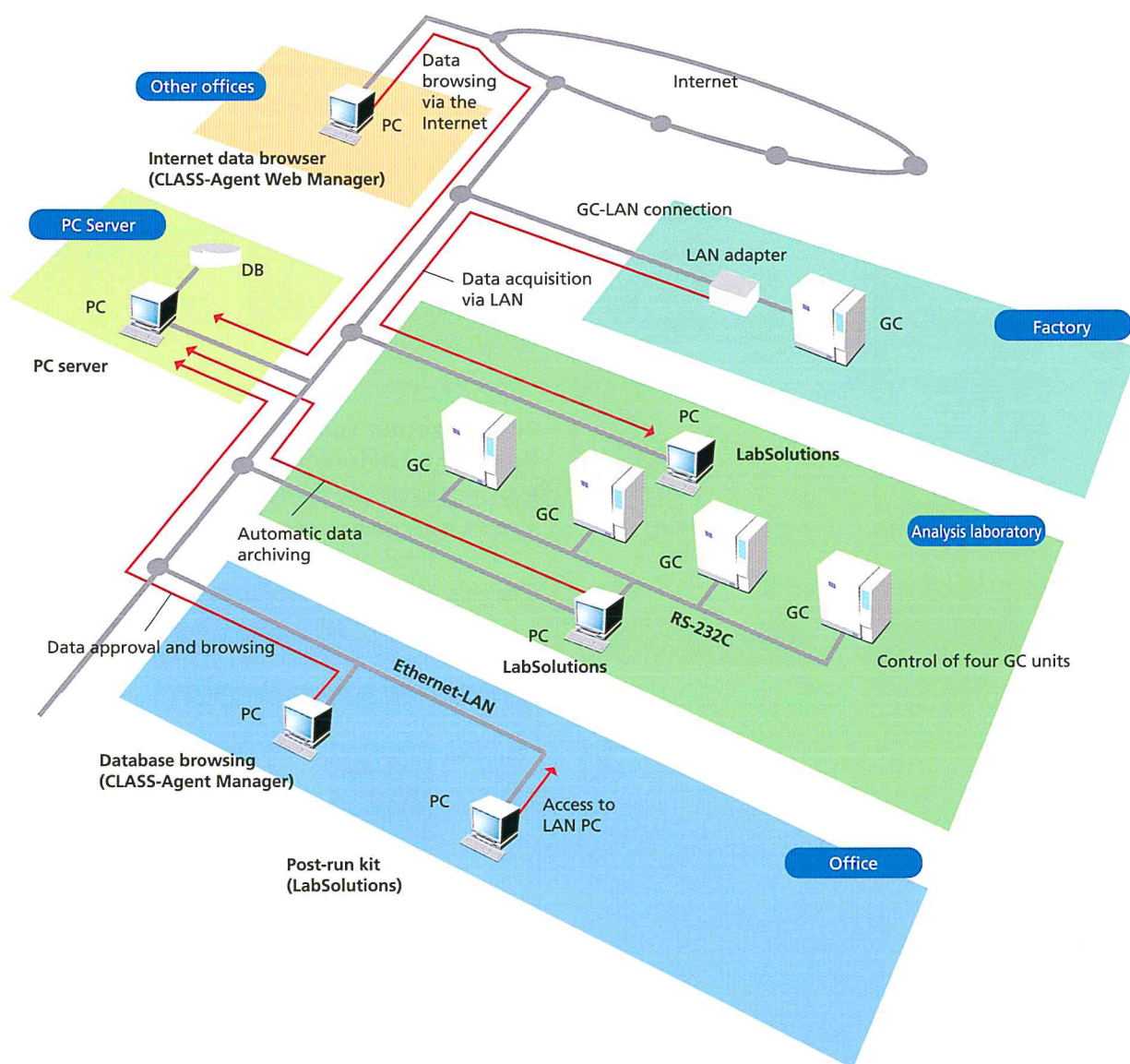
- Software for centralized data management
- Measured data automatically saved in the database
- Browsing software easily finds target data
- Browse data over the Internet
- Compatible with Oracle, Access, and SQL databases

LabSolutions Post-run Software

Install the secondary license software in a separate PC on the LAN to allow data analysis in the office.

GC-LAN Connection Kit

- Offers remote GC control and data acquisition in a LAN environment
- Connects the GC to PCs over a LAN using a LAN adaptor



LabSolutions Ver. 5 Specifications

Software Specifications

Compatible with Windows®7 Professional (32bit, 64bit)/ XP Professional (SP2 or SP3) / Vista Business (SP2)
32-bit application (capable of long filenames)
Graphical user interface (assistant bar, etc.)

Instrument Control

Controls GC-2010 Plus, GC-2010, GC-2014, GC-2025, GC-14B (A), AOC-20i/s, HS-20 Simultaneously controls a maximum of four GC or LC units (multi-license version permits registering up to 16 units).
Supports dual-injection system and a maximum of four GC-2010 detectors or two non-GC-2010 detectors.

Data Acquisition

Offers minimum sampling time of 4 ms, snapshot function, single analysis and batch analysis capability, Batch Table Wizard, analysis add or insert function, extended analysis time function, automatic data file name creation, QA/QC (statistical) functions, batch auto-stop function, user program launcher function, pre-run program support, and OLE automation compatibility (for batch analysis, etc.).

Data Processing and Data Analysis

Automatic and manual peak integration, manipulation, identification (supports multiple relative retention times and grouping), quantitation (area normalization method, corrected area normalization method, internal standard method, external standard method, standard addition method, index calculation, manual coefficient input), calibration points and levels (16 levels 10 points), manual calibration curve creation, column performance calibration, data comparison functions, relative retention time (RRT) display, retention time correction (AART)

Report Generation

Over ten types of report items (sample information, configuration settings, methods, chromatograms, peak tables, calibration curves, grouping results, diagrams, text, etc.), layout customization and preview functions, summary report

Files

Data Explorer for file management, All-In-One file structure, file conversion (CLASS-GC10 format, AIA ANDI format, and text format), GC/LCsolution file loading, file searching, template functions

Hardware Functions

Shutdown/startup functions, system check (GC self-diagnosis), status log, system suitability test (SST) functions

GLP/GMP Compliance

Audit trail, software validation, security, Part 11 compliance functions

Network Capability

GC-LAN connectivity (optional LAN adapter)

Other

Maintenance guide (GC-2010 Plus, GC-2010, GC-2014, GC-2025, GC-17A/1700, GC-14A/B, AOC-20i)

Example of LabSolutions PC Configuration

PC:

CPU: Intel Core i5 processor 3470 3.2 GHz, RAM: 4 GB, HDD: 500 GB
Super multi-drive, OADG keyboard, 1000BASE-T/100BASE-TX/10BASE-T LAN interface

Operating Software

Windows 7 Professional
LabSolutions Ver. 5.54
CLASS-Agent Manager Ver.2.33
Adobe Acrobat Reader (Read only. Cannot create PDF files)
● LabSolutions Single GC can control one GC unit. To control two or more GC units, use LabSolutions Multi GC.
● To control GC-14B(A) units, one CBM-102 interface is required for each GC unit.

Application systems respond to your analytical needs.

Advanced Flow Technology

Backflush System

Detector splitting system

Multi-dimensional GC/GCMS System
MDGC/GCMS-2010 Series

Application Systems

Headspace System

Liquid Injection/ Headspace/ SPME Analysis System

Thermal Desorption System

Pyrolysis System

Simulated Distillation GC System

PONA Analysis System



Headspace Analysis System

- High reproducibility and low carryover ensure reliable quantitation for volatile component analysis.

System Configuration

GC-2010 Plus + HS-20, HS-10

Analysis Applications

- Measurement of residual solvents in pharmaceuticals
- Measurement of flavor components in foods
- Measurement of VOCs in water
- Blood Alcohol Concentration (BAC)



Liquid Injection/ Headspace/ SPME Analysis System

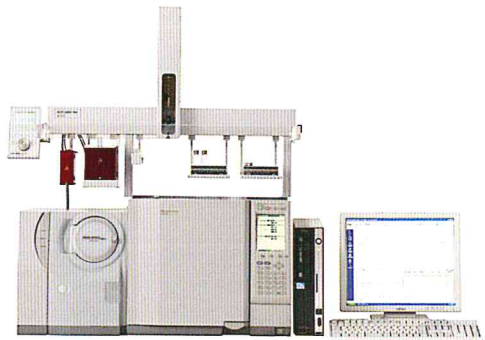
- Liquid, Large volume, Headspace and SPME injection in one single instrument.
- Used to analyze the volatile components in solid or liquid samples.

System Configuration (GC with headspace sampler)

GC-2010 Plus + AOC-5000 Plus

Analysis Applications

- Measurement of residual solvents in pharmaceuticals
- Measurement of flavor components in foods
- Upgradable to SPME mode (solid micro extraction)





Thermal Desorption System

- Used to analyze gas sample tubes – organic vapors are collected on sample tubes at a sample site by drawing a large volume of air thru the tube over a long period of time.
- Sample tubes are thermally desorbed on the Thermal Desorption System to introduce the organic vapors into the GC.

System Configuration

GC-2010 Plus + TD-20

Analysis Applications

- Measurement of air pollutants
- Measurement of gases generated from parts or materials (outgassing)
- Measurement of fragrance components



Pyrolysis System

- Decomposes samples at high temperatures and analyzes the pyrolytic decomposition products.
- Used to analyze high molecular weight compounds such as polymers, forensic samples etc.

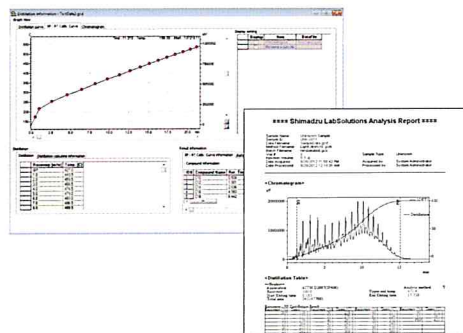
System Configuration (GC with pyrolyser)

GC-2010 Plus + Pyrolyzer by Frontier Laboratories Ltd.

(Autosampler and cryotrap accessories available.)

Analysis Applications

- Characterization of high molecular weight compounds
- Measurement of outgassing from inorganic samples, such as ceramics



Simulated Distillation GC System

- Measures the boiling point distribution of petroleum fractions using the relationship between retention time and boiling point.
- Prints formatted reports after analysis of distillation characteristics.

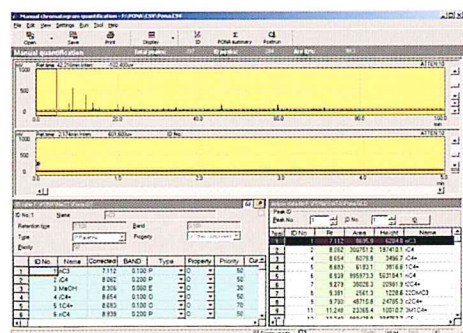
System Configuration (Distillation GC)

GC-2010 Plus + WBI-2010, or OCI-2010 + Labsolutions + SIMDIS GC software

(Select sample injection unit and column to suit the target sample.)

Analysis Applications

- Petroleum fractions



PONA Analysis System

- Separates gasoline or other hydrocarbon compounds; identifies the peaks; classifies them by carbon number, paraffin, olefin, naphthene, aromatic series and oxygenates. Outputs quantitative results.

System Configuration (PONA GC)

GC-2010 Plus + CRG-2010 + GCsolution + PONAAsolution + MS Excel

(Select sample injection unit and column to suit the target sample.)

OCI and high-power oven (230V) are required for high-boiling point component analysis.

Analysis Applications

- Categorization of naphtha, gasoline and gasoline-based materials by carbon number and quantitation by type.
(Also offers calculation of mean specific gravity, mean molecular weight, and octane value.)



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