

ITEM OPPORTUNITY SYNOPSIS

Name of the item to be scouted: Gas chromatograph laboratory analytical instrument

NAICS Code, if known:

Opportunities will be posted for 30 days unless another timeframe is given below.

Number of Days: 14

TECHNICAL INFORMATION

Describe the Item:

Please describe the item application/the end use of item. Gas chromatograph (GC) system and detectors (i.e., analytical laboratory instrument, desktop computer, required software and license, and other peripheral items such as gas regulators, columns, etc.) to analyze the gases in the table below: Chemical Formula Analytical range required Desired analytical precision Methane CH₄ 0-100% +/- 2% Carbon dioxide CO₂ 0-100% +/- 2% Hydrogen H₂ 0-50% +/- 2% Nitrogen N₂ 0-100% +/- 2% Oxygen O₂ 0-21% +/- 2% Carbon Monoxide CO 10-50,000 ppm (upper limit can be higher) +/- 10 ppm

Provide the item number if applicable: (N95 Mask vs Protective Mask).

Supplier Information:

Type of Supplier being sought (select from list below)

Manufacturer

Contract Manufacturer

Distributor

Other (please specify)

Reason for scouting submission (select from list below)

2nd Supplier

Price

Re-Shore

Past supplier no longer available

New Product Startup

Other (please specify) Item must be new, off-the-shelf product with integrated software and hardware.

Summary of Technical Specifications and Performance Requirements:

Describe the manufacturing processes (elaborate to provide as much detail as possible)

• The GC system must be off-the-shelf product with a model or product number and arrive pre-assembled or with only minor assembly needed to fit in the desired lab space. • POWER SOURCE: 100 TO 240 VAC, 50/60 HZ • Footprint of the system must fit on a typical laboratory benchtop (approx. 24" x 36")

Provide dimensions / size / tolerances / performance specifications of the item.

Footprint of the system must fit on a typical laboratory benchtop (approx. 24" x 36")

List required materials needed to make the product, including materials of product components, if applicable. high precision machined metals, molded plastics

Are there applicable certification requirements?

Yes

No

Please Explain:

Are there any applicable regulations that apply to the production of this item?

Yes

No

Please Explain:

Are there any other standards, requirements?

Yes

No

Please Explain:

Additional Comments:

Is there other information that would impact the item's performance or usefulness? Please explain.

Business Information

Volume and Pricing:

Estimated Potential Business Volume (i.e. #Units per day, month, year): 1 unit

Estimated Target Price / Unit Cost Information: (flexible and negotiable not accepted)

\$60,000

Delivery Requirements:

When is it needed by? (Immediate, 30 days, 6 months, etc) As soon as possible

Describe packaging requirements (i.e., individually/ group packaging). Wrapped and packaged as fragile item.

Where will this item be shipped? Cincinnati, OH

Additional Comments:

Is there other information you would like to include? Please see attached quotes as examples of the type of analytical instrument to be scouted.

Ben Stark
 George Mason University
 4400 University Dr
 FAIRFAX VA 22030-4422

Quotation

Quote No.	Create Date	Delivery Time	Page
4385791	05/23/2023	7 Weeks	1 of 5
Contact	Phone no.	Valid to	
Jasmin Molina	602-329-5278	08/21/2023	
To place an order: Visit www.agilent.com/store to place online order using a purchase order or credit card and track your order status.			
Product	Email	FAX	
Consumables	cag_sales-NA@agilent.com	302-633-8901	
Genomics	orders@agilent.com	512-321-3128	
Pathology	customer.service@agilent.com	800-566-3256	
Instruments	Lscainstrumentsales@agilent.com	302-633-8953	
1-800-227-9770 Option 1			

Item	Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
1000	G3588A	1.000 EA	53,180.00 USD	14,890.40-	38,289.60
	990 Micro GC With the following configuration: GC SYSTEM (990-992) : Instrument(990) Channel Qty(001-004)/(011-014) : Two Channels (002/012) Single Sample Inlt (02A) : Single sample inlet A (02A) Column for Channel 1 (110-199) : MS5A,10m,BF 1m,FactI (124) Ch1, Carrier Gas Ar/He : CH1 Carrier Gas Ar/N2 (11A) Sample Inlet for Channel1 : CH1 sample inlet A (12A) Column for Channel 2 (210-299) : PPU,10m,BF 1m,FactI (286) Ch2, Carrier Gas Ar/He : CH2 Carrier Gas He/H2 (21H) Sample Inlet for Channel2 : CH2 sample inlet A (22A) Accessories (551-570) : Touch Screen Display(570) Accessory Option 553 Quantity : 1 Ship-to Country : USA Two GC channels Two Carrier Gasses MGC MS5A, 10m, HI, BF 1m, FactI MGC PPU, 10m, HI, BF 1m, FactI 990 Genie Filter Beswick press reducer 990 Touch Screen Display 990 Micro GC Instrument Installation (44K) Introduction (44L)				
	Special discount of 28.00 % is applied.				
2000	19199H	1.000 EA	1,049.00 USD	293.72-	755.28
	Micro GC Installation Tool Kit				

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To place an order: Visit www.agilent.com/store to place online order using a purchase order or credit card and track your order status.			
Product	Email	FAX	
Consumables	cag_sales-NA@agilent.com	302-633-8901	
Genomics	orders@agilent.com	512-321-3128	
Pathology	customer.service@agilent.com	800-566-3256	
Instruments	Lscainstrumentsales@agilent.com	302-633-8953	
1-800-227-9770 Option 1			

Item	Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
Special discount of 28.00 % is applied.					
3000	5183-4644	2.000 EA	515.00 USD	288.40-	741.60
2 Stg Rgltr,brs,125psi,CGA580,1/8in,ftg 2 Stage Regulator ,brass body, Stainless Steel diaphragms,125 psi max,CGA580, Helium, Argon, Nitrogen; comes with 1/8" fitting;For 1/4" tubing purchase a 1/4" adapter					
Special discount of 28.00 % is applied.					
4000	M8414AA	1.000 EA	15,168.00 USD	4,247.04-	10,920.96
OpenLab CDS Workstation PC Bundle. Includes software, PC with 8GB, 2 connections, 1 year Software Maintenance Agreement and phone.					
With the following configuration: Ship-to Country : USA GC Instrument Connection Installation (44K) Introduction (44L) 1 Year SW Update/Phone Assist (44W)					
Special discount of 28.00 % is applied.					



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Instruments	Lscainstrumentsales@agilent.com	302-633-8953	
1-800-227-9770 Option 1			

Item	Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
			Gross Amount	: \$	70,427.00
			Total Discount	: \$	19,719.56
			Net Amount	: \$	50,707.44
			Shipping & Handling	: \$	1,521.23
			Total	: \$	52,228.67

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Ask about our attractive payment options and how we can help you acquire the latest innovations while minimizing the upfront costs. Contact your Agilent sales representative today or visit us online at www.agilent.com/en/technology/agilent-financial-solutions to learn why more and more labs are choosing these flexible payment plans and identify which works best for you.

To place an order: Visit www.agilent.com/store to place online orders using a purchase order or credit card and track your order status.

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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 www.agilent.com/store 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.

TERMS AND CONDITIONS:

This offer is subject to Agilent Technologies' Standard Terms and Conditions of G8T47.

- 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 90 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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The sale of Agilent Products and Services referenced in this quotation is subject to the then current version of Agilent's Terms of Sale, and any Supplemental Terms or Occasional Reseller Terms of Sale or other applicable terms referenced herein. The sale of Microplates Products shall be subject to Microplates Terms of Sale and any Supplemental Terms or other applicable terms referenced herein. The sale of Microplates Tooling Products shall be subject to Microplates Tooling Terms of Sale and any Supplemental Terms or other applicable terms referenced herein. All of the above "Terms" as applicable. A copy of the 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 take precedence for 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. Products and Services 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.

Agilent Payment Method: ACH
Credit card accepted only at the time of order placement.
Agilent will charge 3% of the invoiced amount, when term invoices are paid with a credit card.

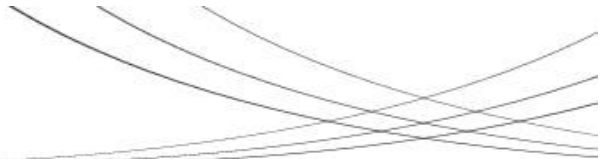
PRODUCT REQUIREMENTS

- Gas chromatograph (GC) system (i.e., analytical laboratory instrument, desktop computer, required software and license, and other peripheral items such as gas regulators, column, etc.) to analyze the gases in the table below:

Chemical	Formula	Analytical range required	Desired analytical precision
Methane	CH ₄	0-100%	+/- 2%
Carbon dioxide	CO ₂	0-100%	+/- 2%
Hydrogen	H ₂	0-50%	+/- 2%
Nitrogen	N ₂	0-100%	+/- 2%
Oxygen	O ₂	0-21%	+/- 2%
Carbon Monoxide	CO	10-50,000 ppm (upper limit can be higher)	+/- 10 ppm

Note: 10,000 ppm = 1%

- The GC system must be off-the-shelf product with a model or product number and arrive pre-assembled or with only minor assembly needed to fit in the desired lab space.
- POWER SOURCE: 100 TO 240 VAC, 50/60 HZ
- Footprint of the system must fit on a typical laboratory benchtop (approx. 24" x 36")
- The GC system be designed to allow for in-line measurement from a reactor column with pressures up to 150 psi and allow for direct injection of samples
 - Pressures can be regulated down (reduced) prior to injection, but this must be accounted for and indicated in the quotation
- Must also be able to receive manual direct injections
- The GC must be able to accommodate at least four (4) GC detectors simultaneously and they must be individually temperature controlled
- The GC must have at least one thermal conductivity detector on the final configuration
- In-lab training and familiarity with the system provided and included in the cost of the purchase
- The GC must have an interface with a keypad
- The GC must have programming capabilities (temperature, time, valve switching, etc.)
- The GC must be able to perform automatic leak checks
- The GC software must have all instrument controls from one window/computer screen to include all configuration, GC analytical conditions, batch automated sample handling software to minimize initial startup training time and future user training.
- The GC software must have all data processing controls accessible from one window to ensure easy operation and training of new users in the future.
- QA/QC software for the GC must be included that can monitor all operational parameters like resolution and baseline values
- GC software must include monitoring of routine maintenance parts such as column, injection liners and septa to insure constant proper performance
- For data processing and analysis, the GC software must allow for peak integration manipulation, identification, quantitation, and manual calibration curve creation



Customer:

Ben Stark
George Mason University
4400 University Drive
Fairfax, VA 22030
Phone: (262) 510-9977
Fax:
E-mail: bstark@gmu.edu

Sales Engineer:

James Eckert
Shimadzu Scientific Instruments
7170 Riverwood Drive, Suite B
Columbia, MD 21046
Regional Office: (410) 381-1227 Ext. 1658
Direct Dial: 800-388-6996
E-mail: jreckert@shimadzu.com

Sales Proposal

Quotation: SSI-226941-F1S2

Expiration: 5/26/2023

Quote Description:

Items 1,87 9 and 29 are on the GSA Contract number 47QSWA22D005Y

Proposed Ship Date: 30 Days/ARO **FOB:** COLUMBIA **Ship Method:** BEST WAY

Shipping Terms: PREPAID & ADD **Incoterms:**

Additional Information:

- The IFF of .75% has been added to the price of all MAS items under GSA Contract No. 47QSWA22D005Y which expires May 31st, 2027. SSI's UEI is HJLSXV81TRX5.

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

For Order Placement:

Reference Quotation Number on Purchase Order

Please note that state and local taxes, if applicable, will be added at invoicing.
Forward official tax exempt documentation if applicable.

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*



Bruce Thompson

Date: 4/27/2023

*Sales Proposal is not valid without Authorized Signature.

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

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

System and Custom GC

	Product #	Qty	Description	Price Per Unit	GSA Ext'd	On Contract
1	221-83731-42	1	GC-2030N 115v	\$13,003.00	\$9,956.96	Yes
2	221-78760-41	1	Aux Heater Board 3ch GC-2030	\$452.00	\$384.20	No
3	221-78870-41	1	Aux switching 24v board GC-2030	\$166.00	\$141.10	No
4	221-78720-42	1	POWER DISTRIBUTION BOARD 24V GC-2030 V2	\$220.00	\$187.00	No
5	220-90649-61	1	System GC-2030 Install Kit	\$2,162.00	\$1,837.70	No
6	ASSYANDTEST	1	Assemble and Test	\$0.00	\$0.00	No
7	221-77100-41	1	SPL-2030	\$3,789.00	\$3,321.34	Yes
8	221-75188-00	1	Liner, glass, split/splitless, ID 3.4mm,deact w/ wool, for SPL-2030 ,2010plus, 2010, 2025, 2014	\$169.00	\$143.65	No
9	221-77200-41	1	FID-2030	\$4,737.00	\$4,152.33	Yes
10	ASSYANDTEST	1	Assemble and Test	\$0.00	\$0.00	No
11	221-73555-00	2	Stainless steel tubing LMF-MF, 100cm	\$61.00	\$103.70	No
12	221-82590-41	1	pTCD 2030 (rear), w/o DAFC	\$5,211.00	\$4,429.35	No
13	221-35004-91	2	ADAPTER GF-1/16	\$24.00	\$40.80	No
14	221-35003-00	2	ADAPTER GM-1/16, GC-14/17, QP5000/5050	\$32.00	\$54.40	No
15	201-35183-00	1	GASKET, ALUMINUM (100/PK)	\$13.00	\$11.05	No
16	221-82865-42	1	Capillary adaptor for packed TCD with makeup flow	\$166.00	\$141.10	No
17	221-32705-00	1	NUT, SLOTTED, 6 SIDED, CAPILLARY, GC14/17/2010/2014, INJ AND DET CONNECTION	\$18.00	\$15.30	No
18	228-16002-00	2	Stainless Steel Female Cap Nut	\$17.00	\$28.90	No
19	221-77970-41	1	DAFC-2030	\$2,312.00	\$1,965.20	No
20	221-09688-91	1	TUBE,AIR INLET	\$25.00	\$21.25	No
21	220-94673-30	2	Jetanizer, GC-2030	\$1,070.00	\$1,819.00	No
22	220-94710-35	2	Valve, GC, Replacement, 6 Port, E Rotor, HC, SF	\$1,306.00	\$2,220.20	No
23	220-94738-18	1	Valve, GC, Install Kit, 2030, Switching	\$1,356.00	\$1,152.60	No
24	220-94738-17	1	Valve, GC, Install Kit, 2030, Loop Sampling	\$1,125.00	\$956.25	No
25	220-90224-01	2	Valve, GC, Acutator, Universal, EUH	\$1,772.00	\$3,012.40	No
26	220-94883-25	2	Valco Clamp Ring, CR3	\$21.00	\$35.70	No
27	220-94688-01	2	VALCO STANDOFF, 2 INCH	\$166.00	\$282.20	No
28	220-90800-41	1	500 uL 1/16 SS Sample Loop Treated	\$496.00	\$421.60	No
29	221-82320-42	1	LVO-2030 two story 4htr 110v	\$6,513.00	\$5,709.13	Yes

30	220-94738-28	1	Valve, GC, Install Kit, LVO lift kit	\$214.00	\$181.90	No
31	221-43947-91	1	CAPILLARY COLUMN HOLDER,GC-8/14/17	\$35.00	\$29.75	No
32	227-36307-01	1	Column, GC, SH-I Guard, 5m x 0.53mm	\$93.00	\$83.70	No
33	221-75765-30	1	Column, GC, SH-Q-BOND PLOT, 30m x 0.53mm x 20um	\$740.00	\$666.00	No
34	221-75763-30	1	Column, GC, SH-Msieve 5A PLOT, 30m x 0.53mm x 50um	\$1,048.00	\$943.20	No
35	220-94663-07	1	1/16" TEE. INERTIUM COATED	\$117.00	\$99.45	No
36	220-94883-14	1	Valco Clamp Ring	\$22.00	\$18.70	No
37	221-23391-91	1	RESTRICTOR, HYDROGEN, M-TYPE UNION	\$14.00	\$11.90	No
38	220-94681-05	1	Precut Tubing, SS, 0.5 m, 0.02" ID 10/pkg	\$114.00	\$96.90	No
39	220-94662-93	1	Fine Metering Valve with 1/16th tubing	\$307.00	\$260.95	No
40	220-90205-00	1	VALVE NUPRO FINE METERING, 1/8th, brass.	\$310.00	\$263.50	No
41	204-98992-65	3	ZUF1, FILTER W/ PRESSED FRIT	\$34.00	\$86.70	No
42	221-32126-08	1	FERRULE CAP ASSM 0.8MM(10PC)	\$62.00	\$52.70	No
43	220-94871-84	2	Ferrule, GC, Graphite/Vespel, 0.8 mm, 5/pkg	\$73.00	\$124.10	No
44	220-90945-01	1	Standards, GC, High TOGAS in Nitrogen, 58L	\$636.00	\$540.60	No
45	220-90815-03	1	Standards, GC, Regulator, CGA C10	\$256.00	\$217.60	No
46	220-94730-01	1	CONNECTOR 1/8 NPT FEMALE FOR SCOTTY 2	\$54.00	\$45.90	No
47	225-50730-00	1	Shimadzu Gas Filter Kit for GC-FID/FPD with Electronic Indicator, three-filter set	\$843.00	\$716.55	No
48	201-48555-00	3	TUBING,MN2-MN2,GC, AA-7000	\$17.00	\$43.35	No
49	221-73555-50	1	Tubing, LMF-MF 0.5M	\$55.00	\$46.75	No
50	201-48555-50	2	TUBING MN2-MN2-50MM LONG,GC	\$26.00	\$44.20	No
51	220-90001-03	1	Regulator for GC (He, Ar, N2)	\$1,094.00	\$984.60	No
52	220-90001-02	1	Regulator for GC gas (H2 or CH4), CGA-350	\$956.00	\$860.40	No
53	220-90001-05	1	Regulator for GC gas (Air)	\$1,094.00	\$984.60	No
54	220-90011-05	2	1/4 NPT to 1/8th swagelok union.	\$13.00	\$22.10	No
55	220-94609-00	1	BTU CALCULATION PROGRAM	\$920.00	\$782.00	No
56	TIER 3 I&F	1	Tier 3 Installation and Customer Familiarization	\$5,000.00	\$0.00	No
57	1YW	1	1 YEAR WARRANTY	\$0.00	\$0.00	No
58	220-99214-01	2	GC-101: INTRODUCTION TO GC INSTRUMENTATION - NEXIS GC-2030	\$2,427.00	\$0.00	No

Computers & Software

Product #	Qty	Description	Price Per Unit	GSA Ext'd	On Contract	
59	223-62703-51	1	LabSolutions LCGC Single GC License	\$3,766.00	\$3,201.10	No
60	223-19335-51	1	LabSolutions LCGC WorkStation, Installation Disc	\$567.00	\$481.95	No
61	220-97317-85	1	Standard PC, 16 GB RAM, 1 TB SSD, MS Office	\$3,399.00	\$3,059.10	No

62	220-97321-10	1	Dell 24" Widescreen Flat Panel	\$457.00	\$411.30	No
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Total List Price:	\$78,275.00
GSA Extended Price:	\$73,372.76
Total Line Item Discount:	\$15,466.80
Quote Sub-Total:	\$57,905.96
Estimated Freight:	\$925.00
Total Amount:	\$58,830.96

By placing an Order for any Products related to this Sales Proposal and Quotation, Customer agrees to the terms and conditions at <https://www.ssi.shimadzu.com/terms/General-Terms-Conditions-of-Sale.html>, which are incorporated herein and applicable hereto. SSI reserves the right to update its Terms and Conditions at any time, however the terms and conditions in effect at the date of delivery of Products related to this Sales Proposal and Quotation shall apply to that purchase.

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

Product # Description

System and Custom GC

221-83731-42 GC-2030N 115v

Includes GC oven with no inlet nor detector, oven light, USB and Ethernet connection to data stations. 115V.

The GC-2030 is a state-of-the-art Gas Chromatograph. Communication with a data station is with either Ethernet switch and cables or via USB. Both are included. Based on the GC 2010Plus, this GC is a conventional, high performance, instrument that allows up to 3 inlets and 4 detectors. The heated zones are programmable from ambient to 450C. The GC oven is capable of 20 temperature program ramps and hold steps. Column Oven Cooling Time: 300° C to 50° C <3.5 minutes, Temp. Column oven Programming Rate: 70° C/min; Constant Linear Velocity, Pressure and flow program ramps with flow Control Range: 0 to 1200ml/min, Programming Rate: -400 to 400 ml/min. Column Oven Cooling Time: 300° C to 50° C < 3.5 minutes, Temp. Column oven Programming Rate: 70° C/min; Constant Linear Velocity, Pressure and flow program ramps with flow Control Range: 0 to 1200ml/min, Programming Rate: -400 to 400 ml/min., Atmospheric pressure compensation.

221-78760-41 Aux Heater Board 3ch GC-2030

Expands the GC2030 to allow 3 additional heated zones

GC2030 Total Heat Zones = 7 - four standard and three optional.

221-78870-41 Aux switching 24v board GC-2030

Auxiliary 24VoltDC Switching Power Supply for Optional PCBs.

This 24VoltDC power supply feeds the distribution board. It is included with the AOC 20s. It is needed with the PRG-2030, FTD-2030 and in cases where the GC will have 3 detectors or more.

221-78720-42 POWER DISTRIBUTION BOARD 24V GC-2030 V2

220-90649-61 System GC-2030 Install Kit

ASSYANDTEST

221-77100-41 SPL-2030

The split/splitless injection module for the GC 2030 is optimized for narrow-bore (0.25 -0.53 mm) capillary column injections using a patented Linear Velocity control mode; heats from ambient to 450 C. It is easily converted to packed column with PN 220-94680-01.

221-75188-00 Liner, glass, split/splitless, ID 3.4mm,deact w/ wool, for SPL-2030 ,2010plus, 2010, 2025, 2014

Liner, glass, split/splitless, ID 3.4mm,deact w/ wool, for SPL-2030 ,2010plus, 2010, 2025, 2014

Liner, glass, split/splitless, ID 3.4mm,deact w/ wool, for SPL-2030 ,2010plus, 2010, 2025, 2014

221-77200-41 FID-2030

The Flame Ionization Detector for the GC-2030 is the most common GC detector and is able to detect almost all organic (carbon-containing) compounds.

ASSYANDTEST

221-73555-00 Stainless steel tubing LMF-MF, 100cm

221-82590-41 pTCD 2030 (rear), w/o DAFC

pTCD-2030

The Packed Thermal Conductivity Detector for the GC-2030 can be configured to be used as either a packed or capillary style detector. The detector comes with the pTCD body, electrometer and basic tubing. This model is a rear detector position install.

Additional flow control and tubing to make it capillary compatible are included with the pTCD-2030 Install Kit.

221-35004-91 ADAPTER GF-1/16

ADAPTER GF-1/16

221-35003-00 ADAPTER GM-1/16, GC-14/17, QP5000/5050

ADAPTER GM-1/16, GC-14/17, QP5000/5050

201-35183-00 GASKET, ALUMINUM (100/PK)

GASKET, ALUMINUM (100/PK)

Used for G type fittings (tubing connections)

221-82865-42 Capillary adaptor for packed TCD with makeup flow

For attaching capillary column with makeup flow to packed TCD

221-32705-00 NUT, SLOTTED, 6 SIDED, CAPILLARY, GC14/17/2010/2014, INJ AND DET CONNECTION

Capillary Column Connection Nut for use on all GC injection ports and detectors.

228-16002-00 Stainless Steel Female Cap Nut

NUT, FEMALE 1.6FN, LC-6A.

Female cap nut. Use with ferrule 228-16000-84.

221-77970-41 DAFC-2030

221-09688-91 TUBE,AIR INLET

220-94673-30 Jetanizer, GC-2030

In-jet methanizer for the conversion of CO and CO₂ to methane. This jet is only compatible with the GC-2030 and is only available in the 0.5 mm bore.

Jetanizer(TM) for the conversion of CO and CO₂ to methane. Recommended altered fuel gas ratios: Makeup 24 mL/min, H₂ 32 mL/min, air 250 mL/min. This jetanizer uses a proprietary nickel catalyst and is more resistant to oxygen and sulfur poisoning. This jet is only compatible with the GC-2030 and is only available in the 0.5 mm bore.

220-94710-35 Valve, GC, Replacement, 6 Port, E Rotor, HC, SF

220-94738-18 Valve, GC, Install Kit, 2030, Switching

220-94738-17 Valve, GC, Install Kit, 2030, Loop Sampling

220-90224-01 Valve, GC, Acuator, Universal, EUH

220-94883-25 Valco Clamp Ring, CR3

220-94688-01 VALCO STANDOFF, 2 INCH

220-90800-41 500 uL 1/16 SS Sample Loop Treated

221-82320-42 LVO-2030 two story 4htr 110v

220-94738-28 Valve, GC, Install Kit, LVO lift kit

221-43947-91 CAPILLARY COLUMN HOLDER,GC-8/14/17

227-36307-01 Column, GC, SH-I Guard, 5m x 0.53mm

SH-Rxi Guard 5m, 0.53mm ID 0.53 x 5

SH-Rxi Guard 5m, 0.53mm ID 0.53 x 5

221-75765-30 Column, GC, SH-Q-BOND PLOT, 30m x 0.53mm x 20um

Fused silica PLOT column for the analysis of C₁ to C₃ hydrocarbons as well as isomers and alkanes up to C₁₀, and oxygenated compounds and solvents. Nonpolar 100% divinylbenzene phase.

Temperature range: -60C to 300C. Similar phases: Supelco/Millipore Sigma Supel-Q-PLOT, Alltech/MEGA S.r.l. AT-Q, Agilent CP-PoraBOND Q, CP-PoraPLOT Q, HP PLOT Q, Restek Rt-Q-BOND.

221-75763-30 Column, GC, SH-Msieve 5A PLOT, 30m x 0.53mm x 50um

Fused silica molecular sieve PLOT column produces sharp, symmetrical peaks for separation of permanent gases such as argon, oxygen, and carbon monoxide.

Note: the molecular sieve material is very hydrophilic and will absorb water from the sample or carrier gas which can affect peak shape and resolution. A moisture absorbing carrier gas filter is recommended. Temperature range: -100C to 300C. Similar phases: Alltech/MEGA S.r.l. AT-Molsieve, Agilent CP-Molsieve 5A, HP PLOT Molsieve, Supelco/Millipore Sigma Molsieve 5A, Quadrex: PLT-5A, Restek Rt-MSieve 5A.

220-94663-07 1/16" TEE. INERTIUM COATED

TREATED 1/16" TEE

220-94883-14 Valco Clamp Ring

Standard Reducing Union, 1/8" X1/16", 0.25mm bore

Standard Reducing Union, 1/8" X1/16", 0.25mm bore

221-23391-91 RESTRICTOR, HYDROGEN, M-TYPE UNION**220-94681-05 Precut Tubing, SS, 0.5 m, 0.02" ID 10/pkg****220-94662-93 Fine Metering Valve with 1/16th tubing****220-90205-00 VALVE NUPRO FINE METERING, 1/8th, brass.**

1/8 Swagelok Nupro fine metering needle valve.

204-98992-65 ZUF1, FILTER W/ PRESSED FRIT**221-32126-08 FERRULE CAP ASSM 0.8MM(10PC)**

Graphite ferrule for 0.8mm OD capillary columns with 0.53 mm ID. Package of 10.

Replacement for 220-94595-06.

220-94871-84 Ferrule, GC, Graphite/Vespel, 0.8 mm, 5/pkg

GCMS Plot Column Filter Adapter, 1/16 .80mm VSPL, 5pk

GCMS Plot Column Filter Adapter, 1/16 .80mm VSPL, 5pk

220-90945-01 Standards, GC, High TOGAS in Nitrogen, 58L

58 L Gas standard, 500 psi requires regulator, CGA C10

58L gas standard with manual valve. ACETYLENE 4200. PPM

CARBON DIOXIDE 20000. PPM

CARBON MONOXIDE 4200. PPM

ETHANE 4200. PPM

ETHYLENE 4200. PPM

HYDROGEN 4200. PPM

METHANE 4200. PPM

OXYGEN 125000. PPM

NITROGEN BALANCE

220-90815-03 Standards, GC, Regulator, CGA C10

Regulator, CGA C10, fits 58L Scotty bottles. Single stage brass. 1/8" NPT fitting. Delivery flow 300 mL/min

Regulator, CGA C10, fits 58L Scotty bottles. Single stage brass. 1/8" NPT fitting. Delivery flow 300 mL/min

220-94730-01 CONNECTOR 1/8 NPT FEMALE FOR SCOTTY 2**225-50730-00 Shimadzu Gas Filter Kit for GC-FID/FPD with Electronic Indicator, three-filter set**

GC and GCMS Three Filter Installation Kit w/ Electronic Indicator, for FID/FPD/FTD

Includes (1) 3 position base plate with 1/8" Stainless Steel inlet fittings and M Type outlet fittings, (1)

Oxygen/Moisture/Hydrocarbon Trap, (2) Hydrocarbon/Moisture Traps, (1) Electronic Indicator Device and (1) Universal Ring Nut Mounting Clip

201-48555-00 TUBING,MN2-MN2,GC, AA-7000

221-73555-50 Tubing, LMF-MF 0.5M

201-48555-50 TUBING MN2-MN2-50MM LONG,GC

220-90001-03 Regulator for GC (He, Ar, N2)

CGA-580 for Helium/Argon/Nitrogen, Dual Stage with 1/8th inch swagelok union for GC

220-90001-02 Regulator for GC gas (H2 or CH4), CGA-350

CGA-350 for Hydrogen/Methane/P5; Dual Stage with 1/8th swagelok union for GC

TWO STAGE BRASS STAINLESS DIAPHRAGM: 0-100 PSI DELIVERY PRESSURE, DUAL SCALE GAUGES WITH PSI INNER SCALE SETTABLE TO 0-200 AND KILO PASCAL RANGES ON OUTER SCALE SETTABLE TO 0-1400; CGA-350 CONNECTIONS; NEEDLE VALVE 1/8" SS SWAGELOK FITTING.

7/15/10 VENDOR CHANGE

INCLUDES 1/8" OD ADAPTOR

1/17/13 VENDOR P/N CHANGE

220-90001-05 Regulator for GC gas (Air)

CGA-590 for Air, Dual Stage with 1/8th inch swagelok union for GC

220-90011-05 1/4 NPT to 1/8th swagelok union.

Fitting for regulators

220-94609-00 BTU CALCULATION PROGRAM

TIER 3 I&F Tier 3 Installation and Customer Familiarization

1YW 1 YEAR WARRANTY

1 YEAR WARRANTY

1 YEAR WARRANTY

220-99214-01 GC-101: INTRODUCTION TO GC INSTRUMENTATION - NEXIS GC-2030

This course consists of classroom and laboratory activities.

Duration: 2 days

Items needed: Everything needed is provided in the class. A personal laptop is recommended.

This course covers the skills required by the analyst to successfully analyze unknown samples using a Shimadzu gas chromatograph and LabSolutions software. Students will learn to operate the GC, create methods, acquire and process data, calibrate methods, and report results. Routine maintenance and fundamental troubleshooting will also be covered.

To register: create an account at <https://shimadzu.geniussis.com/PublicStudentSignUp.aspx>. Once logged in, choose "Register for Course" from the left navigation > click "Register" on your desired course > click "Proceed to Checkout" and follow the checkout instructions to "Submit". You will be instantly enrolled and Customer Service may contact you as follow-up based on the payment method chosen.

Computers & Software

223-62703-51 LabSolutions LCGC Single GC License

Shimadzu LabSolutions® Workstation Software provides system control, data acquisition and reporting for Shimadzu HPLC and GC systems.

LabSolutions Workstation provides user-friendly workstation software for HPLC and GC instruments. LabSolutions has built in system security and system management functions. Data can be saved, in a proprietary format, to a computers local hard drive or to network location.

LabSolutions Workstation supports digital data acquisition of data through RS-232, USB, or Ethernet connection to Shimadzu and third party instruments. Analog signal acquisition can also be performed when an optional A/D board is used.

223-19335-51 LabSolutions LCGC WorkStation, Installation Disc

Shimadzu LabSolutions® Workstation Software provides system control, data acquisition and reporting for Shimadzu HPLC and GC systems.

LabSolutions Workstation provides user-friendly workstation software for HPLC and GC instruments. LabSolutions has built in system security and system management functions. Data can be saved, in a proprietary format, to a computers local hard drive or to network location.

LabSolutions Workstation supports digital data acquisition of data through RS-232, USB, or Ethernet connection to Shimadzu and third party instruments. Analog signal acquisition can also be performed when an optional A/D board is used.

This item includes an installation disc for the current version of LabSolutions Workstation software.

It does not include any LabSolutions licenses. Any licenses must be purchased separately.

220-97317-85 Standard PC, 16 GB RAM, 1 TB SSD, MS Office

Dell computer suitable for most Shimadzu software packages. It is a small form factor computer (approximately 11.5"x11.5"x3.5") and includes an 11th gen Intel Xeon processor, 16Gb of RAM, a 1 TB SSD, a DVD+ R/W drive, 2 ethernet ports, Windows 10 Pro, and Microsoft Office Home & Business.

Model: Dell Precision 3450

Design: Small form factor tower

Dimensions: 11.53 x 11.42 x 3.65"

Operating System (OS): Windows 10 Pro

RAM: 16 GB

Hard Drive: Single 1 TB SSD

Processor: 11th gen Xeon

Ports:

- Ethernet (2)
- DisplayPort (2)
- RS-232 (1)
- USB A (9)
- USB C (1)

Additional devices: DVD+ R/W, Dell Wired Keyboard, Dell Optical Mouse

Additional software: Microsoft Office Home & Business

Warranty: 3-year on-site repair

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.

- Resolution: 1920 x 1080
- Panel Type: In-Plane Switching Technology
- DisplayPort
- Limited warranty: Three years Advanced Portable Exchange through Dell
- Dell PN: P2411H