

CONTRACT SUPPLEMENT  
SP-37 - Rev. 11/17/16  
Prev. Rev. 4/28/14

Arlene Watson-Paulin  
Contract Specialist

860-713-5237  
Telephone Number

# STATE OF CONNECTICUT

DEPARTMENT OF ADMINISTRATIVE SERVICES

PROCUREMENT DIVISION

450 Columbus Boulevard, Hartford, CT 06103

CONTRACT AWARD NO.:

17PSX0210

Contract Award Date:

5 January 2018

Bid Due Date:

8 December 2017

SUPPLEMENT DATE:

11 April 2018

## CONTRACT AWARD SUPPLEMENT #3

**IMPORTANT: THIS IS NOT A PURCHASE ORDER. DO NOT PRODUCE OR SHIP WITHOUT AN AGENCY PURCHASE ORDER.**

DESCRIPTION: **Miscellaneous Environmental Air Monitoring Equipment, Related Equipment, Replacement Parts, Supplies and Service**

FOR: <b>Department of Energy and Environmental Protection</b>		TERM OF CONTRACT: <b>January 1, 2018 through December 31, 2022</b>	
		AGENCY REQUISITION NUMBER: 0000044748	
CHANGE TO IN STATE (NON-SB) CONTRACT VALUE	CHANGE TO DAS-CERTIFIED SMALL BUSINESS CONTRACT VALUE	CHANGE TO OUT OF STATE CONTRACT VALUE	CHANGE TO TOTAL CONTRACT AWARD VALUE
N/C	N/C	N/C	N/C

**NOTICE TO CONTRACTORS:** This notice is not an order to ship. Purchase Orders against contracts will be furnished by the using agency or agencies on whose behalf the contract is made. INVOICE SHALL BE RENDERED DIRECT TO THE ORDERING AGENCY.

**NOTE:** Dollar amounts listed next to each contractor are possible award amounts, however, they do not reflect any expected purchase amounts (actual or implied). They are for CHRO use only.

**NOTICE TO AGENCIES:** A complete explanatory report shall be furnished promptly to the Procurement Manager concerning items delivered and/or services rendered on orders placed against awards listed herein which are found not to comply with the specifications or which are otherwise unsatisfactory from the agency's viewpoint, as well as failure of the contractor to deliver within a reasonable period of time specified. Please issue orders and process invoices promptly.

**CASH DISCOUNTS:** Cash discounts, if any, shall be given SPECIAL ATTENTION, but such cash discount shall not be taken unless payment is made within the discount period.

**PRICE BASIS:** Unless otherwise noted, prices include delivery and transportation charges fully prepaid f.o.b. agency. No extra charge is to be made for packing or packages.

### CONTRACTOR INFORMATION:

REFER TO THE CONTRACT ON THE DAS PROCUREMENT WEB PAGE FOR THE MOST CURRENT CONTRACTOR INFORMATION. (<http://das.ct.gov/mp1.aspx?page=8>)

Company Name: **Wilbur Technical Services**

Company Address: **PO Box 397 – 97 South Main Street, Mount Vernon, NH 03057**

Tel. No.: **603-880-7100**

Fax. No.:

Contract Value: **N/C**

Contact Person: **Erik Mallory**

Delivery: **per contracted terms**

Contact Person Address: **same as above**

Company E-mail Address and/or Company Web Site: [erikm@jjwilbur.com](mailto:erikm@jjwilbur.com) [www.jjwilbur.com](http://www.jjwilbur.com)

Remittance Address: **same as above**

Certification Type (SBE, MBE or None): **None**

Agrees to Supply Political SubDivisions: **NO**

Prompt Payment Terms: **Net 45**

### PLEASE NOTE:

**Supplement #3 issued to add additional items for Teledyne API under Wilbur Technical Services effective immediately.**

All terms and conditions not otherwise affected by this supplement remain unchanged and in full force and effect.

DEPARTMENT OF ADMINISTRATIVE SERVICES

By: \_\_\_\_\_  
(Original Signature on Document in Procurement Files)

Name: **ARLENE WATSON-PAULIN**

Title: Contract Specialist

Date:

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract #17PSX0210

Delivery: Please see below

Terms: Net 45 Days

Contractor Name: Wilbur Technical Services, LLC


ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES
1	<p><b>Manufacturer: Teledyne API</b></p> <p><b>See attached price list for Teledyne API MODLES</b></p> <p>Shipment 45 Days A.R.O.</p> <p><u>General Repair Service</u> \$155.00/per hr on-site \$155.00/per hr off-site</p> <p>Authorized Distributor: Yes</p> <p>Discount from attached price list: 0</p> <p>Price List / Catalog Number - All items in price list Dated: October 2015, October 2016, Dec 2015, June 2016</p> <p>Price List / Catalog Pages On Which: Bidding: All on Price list</p> <p>Wilbur Technical Support #860-508-7714 7:00 a.m. to 5:00 p.m. (7 days a week - 365 days per year)</p>





9970 Carroll Canyon Road, San Diego, CA 92131 Phone: 858-657-9800 Fax: 858-657-9816 Email: [api-sales@teledyne.com](mailto:api-sales@teledyne.com)  
 Remit to address: 12497 Collections Center Drive, Chicago, IL 60693

ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070720000		<b>MODEL T750 PORTABLE DILUTION CALIBRATOR</b> <b>INCLUDES:</b> NumaView™ Software DILUTION GAS MFC 0-10 SLPM STANDARD (OR 0-5 SLPM OR 0-20 SLPM - <u>SPECIFY</u> ) SOURCE GAS MFC 0-100 CC/MIN STANDARD (OR 0-50 CC/MIN OR 0-200 CC/MIN - <u>SPECIFY</u> ) TRAVEL CHASSIS UP TO 3 MASS FLOW CONTROLLERS AVAILABLE Product manuals on CD TWO YEAR STANDARD WARRANTY TAPI Customer Service support by phone, fax, or email for the life of the instrument	\$12,200.00
	080640000	1A	Internal Ozone Generator and GPT Mixing Chamber	\$2,675.00
	080650000	2A	Internal Ozone Generator, GPT Mixing Chamber and U.V. Photometer Module	\$6,050.00
	014530300	7A	Source MFC 0-50 cc/min (Replaces 0-100 cc/min)	N/C
	016760300	7B	Source MFC 0-200 cc/min (Replaces 0-100 cc/min)	N/C
	014560300	8B	Dilution Flowmeter 0-20 LPM (Replaces 0-10 LPM)	N/C
	021510300	8A	Dilution Flowmeter 0-5 LPM (Replaces 0-10 LPM)	N/C
		9	Third Mass Flow Controller (Can only be used on source)	
	080690100		Option, 3 MFC, 10 SCCM	\$3,490.00
	080690200		Option, 3 MFC, 20 SCCM	\$3,490.00
	080690300		Option, 3 MFC, 50 SCCM	\$3,490.00
			<b>COMMUNICATION</b>	
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
			<b>MISCELLANEOUS</b>	
	080700000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
			<b>PHOTOMETER CERTIFICATIONS <sup>(1)</sup></b>	
	062840000	95C	Direct Inter-Comparison with an NIST Standard Reference Photometer (SRP) (6-8 weeks extended lead time)	\$2,855.00
	075960000	95D	Certification as a Transfer Standard(6x6) Visit <a href="http://www.teledyne-api.com">www.teledyne-api.com</a> for detailed descriptions	\$2,035.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees	\$520.00 Consult Factory
(1) Item is NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.				



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070260000		<b>MODEL T200P PHOTOLYTIC NO-NO<sub>2</sub> ANALYZER</b> Ranges: 0-50 ppb to 0-4,000 ppb Includes: NumaView™ Software, External Pump, Particulate Filter Product manuals on CD <i>TWO YEAR STANDARD WARRANTY</i> <i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	\$14,250.00
			<b>MOUNTING</b>	
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	009970000	23	Rack Mount for External Pump Pack (No Slides)	\$285.00
	050180000	29	Carrying Handle (Strap)	\$40.00
			<b>GENERAL</b>	
	056090000	41	Isolated 0-20 or 4-20 mA output (Price per output, three available)	\$220.00
	047150000	42A	Annual Maintenance Kit for Analyzer	\$450.00
	014030000	43	Annual Maintenance Kit for Internal Zero/Span	\$365.00
	059940000	86A	Ammonia Removal Sample Conditioner	\$655.00
			<b>CALIBRATION</b>	
	042340000	50A	Ambient Zero and Ambient Span	\$595.00
	052570000	50B	Ambient Zero and Pressurized Span	\$880.00
	042310200	50G	Zero Scrubber and Internal Span Source (IZS)	\$1,780.00
	060580000	86C	Zero Air Scrubber for Z/S Valves	\$300.00
			<b>NO. PERM TUBES:</b>	
	015062200	52B	Perm Tube, NO <sub>2</sub> , Certified, 421 ng/min @ 50°C, .3 - .5 ppm @ .56 lpm. ±5% of indicated perm tube rate	Consult Factory
	015062600	52G	Perm Tube, NO <sub>2</sub> , Certified, 842 ng/min @ 50°C, .6 - 1.0 ppm @ .56 lpm. ±5% of indicated perm tube rate	Consult Factory
			<b>COMMUNICATION</b>	
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	056060000	61	Concentration Alarm Relays	\$115.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog Input and USB Com Port	\$460.00
			<b>MISCELLANEOUS</b>	
	083730229	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees	\$520.00 Consult Factory
			(1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070280000		<b>MODEL T200UP ULTRA-SENSITIVE PHOTOLYTIC NO-NO<sub>2</sub> ANALYZER</b> Ranges: 0-5 ppb to 0-2,000 ppb Includes: External Pump, Particulate Filter Product manuals on CD <b>TWO YEAR STANDARD WARRANTY</b> <i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	\$19,950.00
			<u>SOFTWARE (Must be specified at time of purchase)</u> 99A NumaView™ Software N/C <u>MOUNTING</u>	
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	009970000	23	Rack Mount for External Pump Pack (No Slides)	\$285.00
	050180000	29	Carrying Handle (Strap)	\$40.00
			<u>GENERAL</u>	
	056090000	41	Isolated 0-20 or 4-20 mA output (Price per output, three available)	\$220.00
	047150000	42A	Annual Maintenance Kit for Analyzer	\$450.00
			<u>CALIBRATION</u>	
	042340100	50A	Ambient Zero and Ambient Span	\$595.00
			<u>COMMUNICATION</u>	
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog Input and USB Com Port	\$460.00
			<u>MISCELLANEOUS</u>	
	075250000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Manual on CD in PDF Format	\$30.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees  (1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	\$520.00 Consult Factory



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
	071720000		<b>MODEL T750U PORTABLE DYNAMIC DILUTION CALIBRATOR</b> <b>INCLUDES:</b> NumaView™ Software DILUTION GAS MFC 0-10 SLPM STANDARD (OR 0-20 SLPM - <u>SPECIFY</u> ) SOURCE GAS MFC 0-200 CC/MIN STANDARD (OR 0-100 CC/MIN - <u>SPECIFY</u> ) INTERNAL OZONE GENERATOR AND GPT MIXING CHAMBER UV PHOTOMETER MODULE UP TO 3 MASS FLOW CONTROLLERS AVAILABLE (PLEASE SEE BELOW) Product manuals on CD TWO YEAR STANDARD WARRANTY TAPI Customer Service support by phone, fax, or email for the life of the instrument	\$21,400.00
	014540300	7C	Source MFC 0-100 cc/min (Replaces 0-200 cc/min)	N/C
	014560300	8B	Dilution MFC 0-20 LPM (Replaces 0-10 LPM)	N/C
		9	Third Mass Flow Controller (3rd MFC Option. Must Select <u>One</u> Below)	
	080690100		Option, 3 MFC, 10 SCCM	\$3,490.00
	080690200		Option, 3 MFC, 20 SCCM	\$3,490.00
	080690300		Option, 3 MFC, 50 SCCM	\$3,490.00
			<b>COMMUNICATION</b>	
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 '(2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600200	64A	USB Com Port	\$140.00
			<b>MISCELLANEOUS</b>	
	081960000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
			<b>PHOTOMETER CERTIFICATIONS <sup>(1)</sup></b>	
	062840000	95C	Direct Inter-Comparison with an NIST Standard Reference Photometer (SRP) (6-8 weeks extended lead time)	\$2,855.00
	075960000	95D	Certification as a Transfer Standard(6x6) Visit www.teledyne-api.com for detailed descriptions	\$2,035.00
	WarrantyIEXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees <sup>(1)</sup>	\$520.00 Consult Factory
			<sup>(1)</sup> Item is NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	







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 Remit to address: File 56866; Los Angeles, CA 90074-6866

ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070550000		<b>MODEL T500U CAPS NO<sub>2</sub> ANALYZER</b> Ranges: 0-5 ppb to 0-1,000 ppb Includes: NumaView™ Software, Internal Pump, Particulate Filter, Sample Conditioner Product manuals on CD <b>TWO YEAR STANDARD WARRANTY</b> <i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	\$17,850.00
			<b>MOUNTING</b>	
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	050180000	29	Carrying Handle (Strap)	\$40.00
			<b>GENERAL</b>	
	056090000	41	Isolated 0-20 or 4-20 mA output (Price per output, two available)	\$220.00
	081910000	42A	Annual Maintenance Kit for Analyzer	\$375.00
			<b>CALIBRATION</b>	
	042340000	50A	Ambient Zero and Ambient Span	\$595.00
	081650000	50G	Zero Scrubber and Internal Span Source (IZS)	\$1,780.00
			<b>COMMUNICATION</b>	
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog Input and USB Com Port	\$460.00
			<b>MISCELLANEOUS</b>	
	078340000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees  (1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	\$520.00 Consult Factory



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070600000		<b>MODEL T640 PM MASS MONITOR</b> High resolution particle sensor with broadband LED source Microprocessor control with 4GB internal data storage and NumaView™ software T Series, lightweight 19" rack mountable chassis with Ethernet communications Simultaneous, 1-min PM10 and PM2.5 mass concentration measurements <b>INCLUDED COMPONENTS PER ANALYZER</b> 1 Internal sample pump (for 5 LPM sample flow) with in-line DFU filter N/C 1 Internal sample flow controller with ambient temp/pres compensation N/C 1 Aerosol Sample Conditioner (ASC) N/C 1 Ambient Temperature Probe with 15 ft cable and solar shield N/C 1 Operating Manual on CD N/C <i>TWO YEAR STANDARD WARRANTY</i>	\$21,900.00
	083760000		<b>FLOW AND SAMPLE HEAD OPTIONS</b> Sample Head (for 5 LPM flow) with Inner Sample Tube	\$1,100.00
	083770000	640X	Auxiliary Flow System with the US EPA, 16.7LPM, PM10, 640X Inner Sample Tube, 640X Bypass Flow Coupler, and External Pump	\$14,000.00
	084910000		<b>ACCESSORIES</b> Leak Check, Flow Audit Adaptor Kit	\$185.00
	083780000		<b>INSTALLATION HARDWARE</b> Sample Tube Extension Kit, 8 Foot, ea. with Coupling and Roof Flange	\$673.00
	083790000		Sample Tube Extension Kit, 8 Foot, ea. with Coupling and Roof Flange (for the 640X option)	\$902.00
	084710000		Support Tripod - Supports Sample Tube Extension Kit	\$289.00
	031510000	20A	<b>MOUNTING</b> Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	WR0000067	60C	<b>COMMUNICATION</b> Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	FL0000003		<b>CONSUMABLES</b> In-line DFU Filter, (2-4 per year)	\$35.00
	083540000	70A	<b>MISCELLANEOUS</b> Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manuals on CD	\$30.00
	084530000		<b>ENCLOSURE<sup>(1)</sup></b> Fan-ventilated, weatherproof outdoor enclosure for the T640 <sup>(1)</sup>	\$6,500.00
			<sup>(1)</sup> Item is NET PRICE, NOT DISCOUNTABLE	



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070100000		<b>MODEL T100 UV FLUORESCENCE SO<sub>2</sub> ANALYZER</b> Ranges: 0-50 ppb to 0-20 ppm Includes: NumaView™ Software, Internal Pump, Particulate Filter Product manuals on CD TWO YEAR STANDARD WARRANTY TAPI Customer Service support by phone, fax, or email for the life of the instrument	\$11,850.00
			<b>MOUNTING</b>	
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	009970000	23	Rack Mount for External Pump Pack (No Slides)	\$285.00
	050180000	29	Carrying Handle (Strap)	\$40.00
			<b>GENERAL</b>	
	056090000	41	Isolated 0-20 or 4-20 mA current output (Price per output, three available)	\$220.00
	043570000	42A	Annual Maintenance Kit for Analyzer	\$365.00
	014750000	43	Annual Maintenance Kit for Internal Zero/Span	\$250.00
	012720100	47B	NO optical filter recommended for high NO <sub>x</sub> backgrounds (Required for EN Certification)	\$175.00
	044530100	65A	Paramagnetic O <sub>2</sub> Sensor 0-100% Range	\$5,310.00
	064270000	67A	CO <sub>2</sub> Sensor 0-20% Range	\$5,310.00
			<b>CALIBRATION</b>	
	046670000	50A	Ambient Zero and Ambient Span	\$705.00
	069480000	50E	Zero Scrubber and Pressurized Span	\$1,175.00
	046340000	50G	Zero Scrubber and Internal Span Source (IZS)	\$1,575.00
			<b>SO<sub>2</sub> PERM TUBES:</b>	
	015060400	52C	Perm Tube, SO <sub>2</sub> , Certified, 796 ng/min @ 50°C, .3 - .5 ppm @ .76 lpm. ± 5% of indicated perm tube rate	Consult Factory
	015060800	52H	Perm Tube, SO <sub>2</sub> , Certified, 1592 ng/min @ 50°C, .8 PPM @ .76 lpm. ± 5% of indicated perm tube rate	Consult Factory
	015061400	52M	Perm Tube, SO <sub>2</sub> , Uncertified, 220 ng/min @ 50°C, .08 - .12 ppm @ .56 lpm (Nominal) ± 25% of indicated perm tube rate	Consult Factory
			<b>COMMUNICATION</b>	
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	056060000	61	Concentration Alarm Relays	\$115.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog Input and USB Com Port	\$460.00
			<b>MISCELLANEOUS</b>	
	068070000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees	\$520.00 Consult Factory
			(1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	
<b>NET TOTAL</b>				



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070210000		<b>MODEL T200U ULTRA-SENSITIVE CHEMILUMINESCENCE NO/NO<sub>2</sub>/NO<sub>x</sub> ANALYZER</b> Ranges: 0-5 ppb to 0-2,000 ppb Includes: NumaView™ Software, External Pump, Particulate Filter Product manuals on CD <b>TWO YEAR STANDARD WARRANTY</b> <i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	\$18,750.00
			<b>MOUNTING</b>	
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	009970000	23	Rack Mount for External Pump Pack (No Slides)	\$285.00
	050180000	29	Carrying Handle (Strap)	\$40.00
			<b>GENERAL</b>	
	056090000	41	Isolated 0-20 or 4-20 mA output (Price per output, three available)	\$220.00
	047150000	42A	Annual Maintenance Kit for Analyzer	\$450.00
			<b>CALIBRATION</b>	
	042340100	50A	Ambient Zero and Ambient Span	\$595.00
			<b>COMMUNICATION</b>	
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog Input and USB Com Port	\$460.00
			<b>MISCELLANEOUS</b>	
	072820000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees  (1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	\$520.00 Consult Factory



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Remit to address: 12497 Collections Center Drive, Chicago, IL 60693

ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070310000		<b>MODEL T300U ULTRA-SENSITIVE GAS FILTER CORRELATION CO ANALYZER</b> Ranges: 0-100 ppb to 0-100 ppm Includes: NumaView™ Software, Internal Pump, Inlet Drier, Internal Zero Source, and Particulate Filter Product manuals on CD <i>TWO YEAR STANDARD WARRANTY</i> <i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	\$14,700.00  N/C N/C
			<u><b>MOUNTING</b></u>	
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	009970000	23	Rack Mount for External Pump Pack (No Slides)	\$285.00
	050180000	29	Carrying Handle (Straps)	\$40.00
			<u><b>GENERAL</b></u>	
	060070000		CEMS Configuration	-\$600.00
	056090000	41	Isolated 0-20 or 4-20 mA output (Price per output, three available)	\$220.00
	009600400	42A	Annual Maintenance Kit for Analyzer	\$345.00
			<u><b>CALIBRATION</b></u>	
	036090100	50A	Ambient Zero and Ambient Span	\$595.00
			<u><b>COMMUNICATION</b></u>	
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 '(2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	056060000	61	Concentration Alarm Relays	\$115.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog Input and USB Com Port	\$460.00
			<u><b>MISCELLANEOUS</b></u>	
	072840000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees	\$520.00 Consult Factory
			(1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070730300		<b>MODEL T703 UV PHOTOMETRIC O<sub>3</sub> CALIBRATOR WITH INTERNAL ZERO AIR PUMP AND EXTERNAL ZERO AIR SHUT-OFF VALVE</b> Photometer Ranges: 0-100 ppb to 0-10 ppm Includes: NumaView™ Software Product manuals on CD <b>TWO YEAR STANDARD WARRANTY</b> <i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	\$12,600.00
			<b>MOUNTING</b>	
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	050180000	29	Carrying Handle (Strap)	\$40.00
			<b>GENERAL</b>	
	058110000	42A	Annual Maintenance Kit	\$270.00
			<b>COMMUNICATION</b>	
	WR0000024	60A	RS232 Cable DB9F to DB25M	\$20.00
	WR0000077	60B	RS232 Cable DB9F to DB9F	\$20.00
	WR0000067	60C	CATS, 7 RJ-45	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
			<b>ADDITIONAL OPTIONS</b>	
	017230200	91	Dryer (Drierite Cartridge)	\$310.00
	072210100	48C	External Valve Driver Capability - 12V Without Power Supply	\$545.00
	072210200	48D	External Valve Driver Capability - 24V Without Power Supply	\$545.00
	072210300	48E	External Valve Driver Capability - 12V With Power Supply	\$590.00
	072210400	48F	External Valve Driver Capability - 24V With Power Supply	\$590.00
			<b>MISCELLANEOUS</b>	
	072230000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
			<b>PHOTOMETER CERTIFICATIONS</b> <sup>(1)</sup>	
	062840000	95C	Direct Inter-Comparison with an NIST Standard Reference Photometer (SRP) <i>(6-8 weeks extended lead time)</i>	\$2,855.00
	075960000	95D	Certification as a Transfer Standard(6x6) Visit www.teledyne-api.com for detailed descriptions	\$2,035.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees	\$520.00 Consult Factory
			(1) Item is NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070130000		<b>MODEL T101 UV FLUORESCENCE H<sub>2</sub>S ANALYZER</b> Ranges: 0-50 ppb to 0-10 ppm Includes: Internal Pump, Particulate Filter * BASIC UNIT IS FACTORY SET TO MEASURE H <sub>2</sub> S ONLY * H <sub>2</sub> S CONVERTER & SO <sub>x</sub> SCRUBBER Product manuals on CD TWO YEAR STANDARD WARRANTY TAPI Customer Service support by phone, fax, or email for the life of the instrument	\$15,800.00
			<b>SOFTWARE (Must be specified at time of purchase)</b> 99A NumaView™ Software N/C <b>MOUNTING</b> 20A Rack Mount with Chassis Slides 26" = 660 mm \$285.00 20B Rack Mount with Chassis Slides 24" = 610 mm \$285.00 21 Rack Mount, no Slides, Ears only \$115.00 23 Rack Mount for External Pump Pack (No Slides) \$285.00 29 Carrying Handle (Strap) \$40.00 <b>GENERAL</b> 41 Isolated 0-20 or 4-20 mA output (Price per output, three available) \$220.00 42A Annual Maintenance Kit for Analyzer \$365.00 43 Annual Maintenance for Internal Zero/Span \$250.00 47B NO Optical Filter (Recommended for High NO <sub>x</sub> backgrounds) \$175.00 <b>CALIBRATION</b> 50A Ambient Zero and Ambient Span \$705.00 50G Zero Scrubber and Internal Span Source (ZS) \$1,575.00 <b>H<sub>2</sub>S PERM TUBES:</b> 52A Perm Tube, H <sub>2</sub> S, Uncertified, 106 ng/min @ 50°C, .08 - .12 ppm @ .76 lpm (Nominal) ± 25% of indicated perm tube rate Consult Factory 52E Perm Tube, H <sub>2</sub> S, Certified, 76 ng/min @ 50°C, .04 - .06 ppm @ .76 lpm. ±5% of indicated perm tube rate Consult Factory <b>COMMUNICATION</b> 60A RS232 Cable, DB-9F to DB-25M \$20.00 60B RS232 Cable, DB-9F to DB-9F \$20.00 60C Ethernet Cable, 7 (2m) with RJ 45 Connectors \$20.00 60D USB Com Port Cable \$20.00 61 Concentration Alarm Relays \$115.00 62 RS232 Internal Multi-Drop \$235.00 64A USB Com Port \$140.00 64B Analog Input and USB Com Port \$460.00 <b>MISCELLANEOUS</b> 70A Product Manual, Paper Copy \$110.00 70B Additional Product Manual on CD \$30.00 Warranty1EXT 92A 1 Year Extended Warranty <sup>(1)</sup> \$520.00 Please Contact Factory for Additional Extended Warranty Fees Consult Factory (1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	009970000	23	Rack Mount for External Pump Pack (No Slides)	\$285.00
	050180000	29	Carrying Handle (Strap)	\$40.00
	056090000	41	Isolated 0-20 or 4-20 mA output (Price per output, three available)	\$220.00
	043570000	42A	Annual Maintenance Kit for Analyzer	\$365.00
	014750000	43	Annual Maintenance for Internal Zero/Span	\$250.00
	012720100	47B	NO Optical Filter (Recommended for High NO <sub>x</sub> backgrounds)	\$175.00
	046670000	50A	Ambient Zero and Ambient Span	\$705.00
	046340000	50G	Zero Scrubber and Internal Span Source (ZS)	\$1,575.00
	015064500	52A	Perm Tube, H <sub>2</sub> S, Uncertified, 106 ng/min @ 50°C, .08 - .12 ppm @ .76 lpm (Nominal) ± 25% of indicated perm tube rate	Consult Factory
	015066400	52E	Perm Tube, H <sub>2</sub> S, Certified, 76 ng/min @ 50°C, .04 - .06 ppm @ .76 lpm. ±5% of indicated perm tube rate	Consult Factory
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	056060000	61	Concentration Alarm Relays	\$115.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog Input and USB Com Port	\$460.00
	072660000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees  (1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	\$520.00 Consult Factory
<b>NET TOTAL</b>				





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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070270000		<b>MODEL T200U ULTRA-SENSITIVE CHEMILUMINESCENCE NO/NOy ANALYZER</b> Ranges: 0-5 ppb to 0-2,000 ppb Includes: External Pump, Flow Control Module, Umbilical, External NOy Converter, and Particulate Filters Product manuals on CD <i>TWO YEAR STANDARD WARRANTY</i> <i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	\$25,400.00
			<u>SOFTWARE (Must be specified at time of purchase)</u>	
		99A	NumaView™ Software	N/C
			<u>MOUNTING</u>	
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	009970000	23	Rack Mount for External Pump Pack (No Slides)	\$285.00
	050180000	29	Carrying Handle (Strap)	\$40.00
			<u>GENERAL</u>	
	056090000	41	Isolated 0-20 or 4-20 mA output (Price per output, three available)	\$220.00
	047150000	42A	Annual Maintenance Kit for Analyzer	\$450.00
	061310000	86A	Ammonia Removal Sample Conditioner	\$835.00
			<u>COMMUNICATION</u>	
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog Input and USB Com Port	\$460.00
			<u>MISCELLANEOUS</u>	
	072880000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees	\$520.00 Consult Factory
			(1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
I	070400000		<b>MODEL T400 UV ABSORPTION O<sub>3</sub> ANALYZER</b> Ranges: 0-100 ppb to 0-10 ppm Includes: NumaView™ Software, Internal Pump, Particulate Filter Product manuals on CD TWO YEAR STANDARD WARRANTY TAPI Customer Service support by phone, fax, or email for the life of the instrument	\$8,950.00     N/C N/C
	<b>MOUNTING</b>			
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	009970000	23	Rack Mount for External Pump Pack (No Slides)	\$285.00
	050180000	29	Carrying Handle (Strap)	\$40.00
	<b>GENERAL</b>			
	056090000	41	Isolated 0-20 or 4-20 mA output (Price per output, two available)	\$220.00
	006190200	42A	Annual Maintenance Kit for Analyzer	\$360.00
	044730000	43	Annual Maintenance for Internal Zero/Span	\$130.00
	<b>CALIBRATION</b>			
	041950000	50A	Ambient Zero and Ambient Span	\$705.00
	048430000	50F	Zero Scrubber and No Span (IZ) (CY5)	\$525.00
	058190000	50G	Zero Scrubber and Internal Span Source (IZS)	\$2,170.00
	043840100	56	Desiccant Dryer for IZS	\$175.00
	<b>COMMUNICATION</b>			
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	056060000	61	Concentration Alarm Relays	\$115.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog Input and USB Com Port	\$460.00
	<b>MISCELLANEOUS</b>			
	068700000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
	<b>PHOTOMETER CERTIFICATIONS</b>			
	062840000	95C	Direct Inter-Comparison with an NIST Standard Reference Photometer (SRP) (6-8 weeks extended lead time)	\$2,855.00
	075960000	95D	Certification as a Transfer Standard(6x6) Visit www.teledyne-api.com for detailed descriptions	\$2,035.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>1)</sup> Please Contact Factory for Additional Extended Warranty Fees  (1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	\$520.00 Consult Factory



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070200000		<b>MODEL T200 CHEMILUMINESCENCE NO/NO<sub>2</sub>/NO<sub>x</sub> ANALYZER</b> Ranges: 0-50 ppb to 0-20 ppm Includes: NumaView™ Software, External Pump, Particulate Filter Product manuals on CD <i>TWO YEAR STANDARD WARRANTY</i> <i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	\$12,900.00     N/C N/C
			<b><u>MOUNTING</u></b>	
	031510000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	009970000	23	Rack Mount for External Pump Pack (No Slides)	\$285.00
	050180000	29	Carrying Handle (Strap)	\$40.00
			<b><u>GENERAL</u></b>	
	056090000	41	Isolated 0-20 or 4-20 mA output (Price per output, three available)	\$220.00
	047150000	42A	Annual Maintenance Kit for Analyzer	\$450.00
	014030000	43	Annual Maintenance for Internal Zero/Span	\$365.00
	044530000	65A	Paramagnetic O <sub>2</sub> Sensor 0-100% Range	\$5,310.00
	059940000	86A	Ammonia Removal Sample Conditioner (Required for EN Certification)	\$655.00
			<b><u>CALIBRATION</u></b>	
	042340000	50A	Ambient Zero and Ambient Span	\$595.00
	052570000	50B	Ambient Zero and Pressurized Span	\$880.00
	042310200	50G	Zero Scrubber and Internal Span Source (IZS)	\$1,780.00
	060580000	86C	Zero Air Scrubber for Z/S Valves	\$300.00
			<b><u>NO<sub>2</sub> PERM TUBES:</u></b>	
	015062200	52B	Perm Tube, NO <sub>2</sub> , Certified, 421 ng/min @ 50°C, .3 - .5 ppm @ .56 lpm. ±5% of indicated perm tube rate	Consult Factory
	015062600	52G	Perm Tube, NO <sub>2</sub> , Certified, 842 ng/min @ 50°C, .6 - 1.0 ppm @ .56 lpm. ±5% of indicated perm tube rate	Consult Factory
			<b><u>COMMUNICATION</u></b>	
	WR0000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR0000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR0000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR0000257	60D	USB Com Port Cable	\$20.00
	056060000	61	Concentration Alarm Relays	\$115.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog Input and USB Com Port	\$460.00
			<b><u>MISCELLANEOUS</u></b>	
	068580000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees  (1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	\$520.00 Consult Factory



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ITEM	P/N	QTY	DESCRIPTION	UNIT PRICE
1	070300000		<b>MODEL T300 GAS FILTER CORRELATION CO ANALYZER</b> Ranges: 0-1 ppm to 0-1,000 ppm Includes: NumaView™ Software, Internal Pump, Particulate Filter Product manuals on CD <b>TWO YEAR STANDARD WARRANTY</b> <i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	\$12,000.00
			<u>MOUNTING</u>	
	031510000	20A	Rack Mount Chassis Slides 26" = 660 mm	\$285.00
	031520000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285.00
	031500000	21	Rack Mount, no Slides, Ears only	\$115.00
	009970000	23	Rack Mount for External Pump Pack (No Slides)	\$285.00
	050180000	29	Carrying Handle (Strap)	\$40.00
			<u>GENERAL</u>	
	056090000	41	Isolated 0-20 or 4-20 mA output (Price per output, three available)	\$220.00
	009600400	42A	Annual Maintenance Kit for Analyzer	\$345.00
	049200000	65A	Paramagnetic O <sub>2</sub> Sensor 0-100% Range	\$5,310.00
	049480000	67A	CO <sub>2</sub> Sensor 0-20% Range	\$5,310.00
			<u>CALIBRATION</u>	
	036090000	50A	Ambient Zero and Ambient Span	\$595.00
	036080000	50B	Ambient Zero and Pressurized Span	\$720.00
	036070000	50E	Zero Scrubber and Pressurized Span	\$845.00
	036100000	50H	Zero Scrubber and Ambient Span	\$750.00
			<u>COMMUNICATION</u>	
	WR000024	60A	RS232 Cable, DB-9F to DB-25M	\$20.00
	WR000077	60B	RS232 Cable, DB-9F to DB-9F	\$20.00
	WR000067	60C	Ethernet Cable, 7 (2m) with RJ 45 Connectors	\$20.00
	WR000257	60D	USB Com Port Cable	\$20.00
	056060000	61	Concentration Alarm Relays	\$115.00
	067610000	62	RS232 Internal Multi-Drop	\$235.00
	067600100	64A	USB Com Port	\$140.00
	067600000	64B	Analog input and USB Com Port	\$460.00
			<u>MISCELLANEOUS</u>	
	068640000	70A	Product Manual, Paper Copy	\$110.00
	076220000	70B	Additional Product Manual on CD	\$30.00
	Warranty1EXT	92A	1 Year Extended Warranty <sup>(1)</sup> Please Contact Factory for Additional Extended Warranty Fees  (1) Extended Warranties are NET PRICE, NOT DISCOUNTABLE and MUST BE ORDERED at the time of instrument purchase.	\$520.00 Consult Factory



CONTRACT SUPPLEMENT  
SP-37 - Rev. 11/17/16  
Prev. Rev. 4/28/14

Arlene Watson-Paulin  
Contract Specialist

860-713-5237  
Telephone Number

# STATE OF CONNECTICUT

DEPARTMENT OF ADMINISTRATIVE SERVICES  
PROCUREMENT DIVISION  
450 Columbus Boulevard, Hartford, CT 06103

CONTRACT AWARD NO.:

17PSX0210

Contract Award Date:

5 January 2018

Bid Due Date:

8 December 2017

SUPPLEMENT DATE:

15 March 2018

## CONTRACT AWARD SUPPLEMENT #2

**IMPORTANT: THIS IS NOT A PURCHASE ORDER. DO NOT PRODUCE OR SHIP WITHOUT AN AGENCY PURCHASE ORDER.**

DESCRIPTION: **Miscellaneous Environmental Air Monitoring Equipment, Related Equipment, Replacement Parts, Supplies and Service**

FOR: <b>Department of Energy and Environmental Protection</b>		TERM OF CONTRACT: <b>January 1, 2018 through December 31, 2022</b>	
		AGENCY REQUISITION NUMBER: 0000044748	
CHANGE TO IN STATE (NON-SB) CONTRACT VALUE	CHANGE TO DAS-CERTIFIED SMALL BUSINESS CONTRACT VALUE	CHANGE TO OUT OF STATE CONTRACT VALUE	CHANGE TO TOTAL CONTRACT AWARD VALUE
N/C	N/C	N/C	N/C

**NOTICE TO CONTRACTORS:** This notice is not an order to ship. Purchase Orders against contracts will be furnished by the using agency or agencies on whose behalf the contract is made. INVOICE SHALL BE RENDERED DIRECT TO THE ORDERING AGENCY.

**NOTE:** Dollar amounts listed next to each contractor are possible award amounts, however, they do not reflect any expected purchase amounts (actual or implied). They are for CHRO use only.

**NOTICE TO AGENCIES:** A complete explanatory report shall be furnished promptly to the Procurement Manager concerning items delivered and/or services rendered on orders placed against awards listed herein which are found not to comply with the specifications or which are otherwise unsatisfactory from the agency's viewpoint, as well as failure of the contractor to deliver within a reasonable period of time specified. Please issue orders and process invoices promptly.

**CASH DISCOUNTS:** Cash discounts, if any, shall be given SPECIAL ATTENTION, but such cash discount shall not be taken unless payment is made within the discount period.

**PRICE BASIS:** Unless otherwise noted, prices include delivery and transportation charges fully prepaid f.o.b. agency. No extra charge is to be made for packing or packages.

### CONTRACTOR INFORMATION:

REFER TO THE CONTRACT ON THE DAS PROCUREMENT WEB PAGE FOR THE MOST CURRENT CONTRACTOR INFORMATION. (<http://das.ct.gov/mp1.aspx?page=8>)

Company Name: **Wilbur Technical Services**

Company Address: **PO Box 397 – 97 South Main Street, Mount Vernon, NH 03057**

Tel. No.: **603-880-7100**

Fax. No.:

Contract Value: **N/C**

Contact Person: **Erik Mallory**

Delivery: **per contracted terms**

Contact Person Address: **same as above**

Company E-mail Address and/or Company Web Site: [erikm@jjwilbur.com](mailto:erikm@jjwilbur.com) [www.jjwilbur.com](http://www.jjwilbur.com)

Remittance Address: **same as above**

Certification Type (SBE, MBE or None): **None**

Agrees to Supply Political SubDivisions: **NO**

Prompt Payment Terms: **Net 45**

### PLEASE NOTE:

**Supplement #2 issued to correct Contractor name to Wilbur Technical Services effective immediately.**

All terms and conditions not otherwise affected by this supplement remain unchanged and in full force and effect.

DEPARTMENT OF ADMINISTRATIVE SERVICES

By: \_\_\_\_\_  
(Original Signature on Document in Procurement Files)  
Name: **ARLENE WATSON-PAULIN**  
Title: Contract Specialist  
Date:

CONTRACT SUPPLEMENT  
SP-37 - Rev. 11/17/16  
Prev. Rev. 4/28/14

Arlene Watson-Paulin  
Contract Specialist

860-713-5237  
Telephone Number

# STATE OF CONNECTICUT

DEPARTMENT OF ADMINISTRATIVE SERVICES  
PROCUREMENT DIVISION  
450 Columbus Boulevard, Hartford, CT 06103

CONTRACT AWARD NO.:

17PSX0210

Contract Award Date:

5 January 2018

Bid Due Date:

8 December 2017

SUPPLEMENT DATE:

7 March 2018

## CONTRACT AWARD SUPPLEMENT #1

**IMPORTANT: THIS IS NOT A PURCHASE ORDER. DO NOT PRODUCE OR SHIP WITHOUT AN AGENCY PURCHASE ORDER.**

DESCRIPTION: **Miscellaneous Environmental Air Monitoring Equipment, Related Equipment, Replacement Parts, Supplies and Service**

FOR: <b>Department of Energy and Environmental Protection</b>		TERM OF CONTRACT: <b>January 1, 2018 through December 31, 2022</b>	
		AGENCY REQUISITION NUMBER: 0000044748	
CHANGE TO IN STATE (NON-SB) CONTRACT VALUE	CHANGE TO DAS-CERTIFIED SMALL BUSINESS CONTRACT VALUE	CHANGE TO OUT OF STATE CONTRACT VALUE	CHANGE TO TOTAL CONTRACT AWARD VALUE
N/C	N/C	N/C	N/C

**NOTICE TO CONTRACTORS:** This notice is not an order to ship. Purchase Orders against contracts will be furnished by the using agency or agencies on whose behalf the contract is made. INVOICE SHALL BE RENDERED DIRECT TO THE ORDERING AGENCY.

**NOTE:** Dollar amounts listed next to each contractor are possible award amounts, however, they do not reflect any expected purchase amounts (actual or implied). They are for CHRO use only.

**NOTICE TO AGENCIES:** A complete explanatory report shall be furnished promptly to the Procurement Manager concerning items delivered and/or services rendered on orders placed against awards listed herein which are found not to comply with the specifications or which are otherwise unsatisfactory from the agency's viewpoint, as well as failure of the contractor to deliver within a reasonable period of time specified. Please issue orders and process invoices promptly.

**CASH DISCOUNTS:** Cash discounts, if any, shall be given SPECIAL ATTENTION, but such cash discount shall not be taken unless payment is made within the discount period.

**PRICE BASIS:** Unless otherwise noted, prices include delivery and transportation charges fully prepaid f.o.b. agency. No extra charge is to be made for packing or packages.

### CONTRACTOR INFORMATION:

REFER TO THE CONTRACT ON THE DAS PROCUREMENT WEB PAGE FOR THE MOST CURRENT CONTRACTOR INFORMATION. (<http://das.ct.gov/mp1.aspx?page=8>)

Company Name: **JJ Wilbur Technical Services**

Company Address: **PO Box 397 – 97 South Main Street, Mount Vernon, NH 03057**

Tel. No.: **603-880-7100**

Fax. No.:

Contract Value: **N/C**

Delivery: **per contracted terms**

Contact Person: **Erik Mallory**

Contact Person Address: **same as above**

Company E-mail Address and/or Company Web Site: [erikm@jjwilbur.com](mailto:erikm@jjwilbur.com) [www.jjwilbur.com](http://www.jjwilbur.com)

Remittance Address: **same as above**

Certification Type (SBE, MBE or None): **None**

Agrees to Supply Political SubDivisions: **NO**

Prompt Payment Terms: **Net 45**

### PLEASE NOTE:

**Supplement #1 issued to add an additional Brand (Teledyne Tekmar) under JJ Wilbur Technical Services to current Contract effective 3/8/2018 thru term of the Contract. Please see Teledyne Tekmar Price list attached.**



All terms and conditions not otherwise affected by this supplement remain unchanged and in full force and effect.

DEPARTMENT OF ADMINISTRATIVE SERVICES

By: \_\_\_\_\_  
(Original Signature on Document in Procurement Files)

Name: **ARLENE WATSON-PAULIN**

Title: Contract Specialist

Date:

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract #17PSX0210

Delivery: Please see below

Terms: Net 45 Days

Contractor Name: Wilbur Technical Services, LLC


ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES
1	<p><b>Manufacturer: Teledyne Tekmar</b></p> <p>See attached price list for Teledyne Tekmar  <b>AQUATek 100 Waters-only Autosampler - October- 2015</b>  <b>Fusion TOC UV Persulfate Analyzer - October-2015</b>  <b>TOC Analyzer System Lotix - October 2015</b>  <b>Lumin Puurge &amp; Trap Concentrator - December 11,2015</b>  <b>HT3 Static and Dynamic Headspace System - October 2015</b>  <b>LSS Boat (Lotix Solid Sampler) - June 2016</b></p> <p>Shipment 45 Days A.R.O.</p> <p><u>General Repair Service</u>            \$155.00/per hr on-site \$155.00/per hr off-site</p>

Authorized Distributor: Yes

Discount from attached price list: 0

Price List / Catalog Number - All items in price list  
 Dated: October 2015, October 2016,  
 Dec 2015, June 2016

Price List / Catalog Pages On Which:  
 Bidding: All on Price list

Wilbur Technical Support #860-508-7714  
 7:00 a.m. to 5:00 p.m. (7 days a week - 365 days  
 per year)

## Septa

14-5818-043	Silicon rubber/teflon face septa. For 20mm top headspace vials, 125 per pack. Included with instrument shipment. (Recommended for temperatures over 100 degrees C. Color coded tan.)	\$	92.82
14-7418-080	Foil backing, septa (pack of 125), required for high temperature vials.	\$	82.62
14-4385-043	Butyl rubber septa without teflon face. For 20mm top headspace vials, 125 per pack. Recommended for temperatures up to 100 degrees C. Color coded grey.	\$	26.88

## Vials

14-4440-324	Vials, 22ml headspace, w/20mm top, for high temperature use (over 225C), 125 per pack. Included with instrument shipment.	\$	136.68
14-4440-024	Vials, 22ml headspace, w/20mm top, 125 per pack.	\$	54.06
14-4439-024	Vials, 12ml headspace, w/20mm top, 125 per pack. ** Requires insert for use**	\$	138.72
14-4438-024	Vials, 9ml headspace, w/20mm top, 100 per pack. ** Requires insert for use**	\$	78.54

## Traps

14-5864-003	Trap, VOCARB 3000	\$	90.78
14-5865-003	Trap, VOCARB 4000	\$	90.78
12-0083-003	Trap, Tenax (#1)	\$	31.62
12-0084-003	Trap, Tenax/Silica gel (#2)	\$	31.62
14-0124-003	Trap, Tenax/Silica gel/charcoal, 12" x 1/8" (#3)	\$	42.84
14-1457-003	Trap, Tenax/charcoal, 12" x 1/8" (#4)	\$	46.92
14-2366-003	Trap, OV-1/Tenax/Silica gel/charcoal, 12" x 1/8" (#5)	\$	44.88
14-1755-003	Trap, OV-1/Tenax/Silica gel, 12" x 1/8" (#6)	\$	36.72
14-3347-003	Trap, OV-1/Tenax, 12" x 1/8" (#7)	\$	40.80
14-3928-003	Trap, Carbo B/Carbo S (#8)	\$	38.76
14-5866-003	Trap, BTEX	\$	90.78
14-4045-003	Trap, GLT, Tenax (G1)	\$	110.16
14-4047-003	Trap, GLT, Tenax/Silica gel/charcoal (G3)	\$	110.16
14-9908-003	#9 Trap, straight (XPT)	\$	147.90

## Interface Cables

14-6689-086	Interface, HP 6850, 6890, 7890 GC	\$	221.34
14-2991-000	Interface, HP 5890 GC	\$	221.34
14-4652-086	Interface, HP 5890 w/5970 MSD and Unix-B or MS-DOS software, HP 5890/5971/5972 MSD and Unix-B or MS-DOS software and HP 5890/5989 MS Engine	\$	221.34
14-3233-000	Interface, Perkin-Elmer 8000 Series/Autosystem, Clarus.	\$	221.34
14-7396-086	Interface, Varian 3800/3900 & 350/450	\$	221.34
14-7396-086	Interface, Varian 3800/3900 & 350/450	\$	221.34
14-4610-086	Interface, Shimadzu GC 14A/15A/17A GC 14A w/QP 1000 EX MSD and GC 14A w/QP 2000 MSD, also includes 1/16" to 2mm unions, needs Shimadzu P/N 221-34280-91	\$	496.74
14-4610-186	Interface, Shimadzu GC 14A/15A/17A GC 14A w/QP 1000 EX MSD and GC 14A w/QP 2000 MSD, needs Shimadzu P/N 221-34280-91	\$	216.24

14-7397-086	Trace 2000/Trace GC Ultra Interface cable w/ 1/16" to 2mm unions	\$	438.60
14-7397-186	Trace 2000/Trace GC Ultra Interface cable	\$	216.24
14-3233-200	PE Clarus 500 Interface Cable	\$	221.34
14-9754-086	Shimadzu 2010-2014 Interface Cable	\$	221.34
15-1269-086	Young Lin YL6500 Interface Cable	\$	215.22
15-1438-086	Bruker GC/IO Cable	\$	221.34

### Computer Interface Cables

14-5107-086	RS232 Cable Assembly (included with unit)	\$	82.62
14-9182-086	Cable Assy, RJ45 Ethernet	\$	13.43

### Sample Preparation Accessories

14-4863-027	Hand crimper for 20mm top headspace vials	\$	296.82
14-4864-027	Tool, decapper 20mm neck	\$	102.00
14-4866-027	Rack holder, vial, for 10 headspace vials	\$	117.30
14-0069-052	5ml gastight syringe w/luer connector	\$	87.72
12-0089-052	10ul calibration syringe	\$	90.78
14-9001-077	Electronic Crimper for 12x32 mm vials.(115V)	\$	993.48
14-9001-177	Electronic Crimper for 12x32mm vials. (230V)	\$	730.17

### Septum Needle Adaptors

14-4913-153	Septum needle adapter kit, Varian 1040/1041 packed injection port	\$	867.00
14-4913-253	Septum needle adapter kit, HP 5890A, 6890, capillary injection port	\$	864.96
14-4913-653	Septum needle adaptor kit, Shimadzu 9A, 14A and 17A packed injection ports	\$	596.70
14-5036-010	Septum nut, HP 5890A capillary injection port	\$	306.00
14-5036-110	Septum nut, HP 5890A packed injection port	\$	627.30
14-1591-610	Septum nut, Shimadzu 9A, 14A and 17A packed injection ports	\$	375.36

**How Client Agency will use the new Miscellaneous Environmental Air Monitoring Equipment, Related Equipment, Replacement Parts, Supplies and Service 17PSX0210**

**Contract Overview:**

This contract is for Miscellaneous Environmental Air Monitoring Equipment, Related Equipment, Replacement Parts, Supplies and Service.

There are (4) Contractors on the new Contract. (3) Of which are manufacturers and (1) distributor.

This contract replaces Contract Award #13PSX0171.

For ease of maneuvering thru the Contract, please utilize the bookmarks to the left.

**How to use this contract:**

Client Agency when making purchases of any products or require service under the Contract please contact the Contractor for the specific brand needed to meet the needs of the Agency. All products are to be purchased from the current price list as identified in the Exhibit B- Price Schedule for the respective Contractor.

Client Agency may request a copy of price-list from any and all vendors under the Contract.

Each Contractor under the Contract carries a complete product line of their product.

**Awarded Contractors:**

Ekto Manufacturing Corporation  
Environics Inc  
Magee Scientific &

Wilbur Technical Services (distributor) for brands:

AeroQual  
Alicat  
Dr DAS  
Gasera  
Market International  
Met One  
Synspec  
STEP  
Teledyne API

CONTRACT AWARD  
SP-38 - Rev. 11/17/16  
Prev. Rev. 5/21/14

Arlene Watson-Paulin  
Contract Specialist

860-713-5237  
Telephone Number

# STATE OF CONNECTICUT

DEPARTMENT OF ADMINISTRATIVE SERVICES

PROCUREMENT DIVISION

450 Columbus Boulevard, Hartford, CT 06103

CONTRACT AWARD NO.:

17PSX0210

Contract Award Date:

5 January 2018

Bid Due Date:

8 December 2017

## CONTRACT AWARD

IMPORTANT: THIS IS NOT A PURCHASE ORDER. DO NOT PRODUCE OR SHIP WITHOUT AN AGENCY PURCHASE ORDER.

### DESCRIPTION:

Miscellaneous Environmental Air Monitoring Equipment, Related Equipment, Replacement Parts, Supplies and Service

FOR:  
Department of Energy and Environmental Protection

TERM OF CONTRACT:  
Effective date through December 31, 2022

AGENCY REQUISITION NUMBER: 0000044748

IN STATE (NON-SB) CONTRACT VALUE	DAS CERTIFIED SMALL BUSINESS CONTRACT VALUE	OUT OF STATE CONTRACT VALUE	TOTAL CONTRACT AWARD VALUE
\$500,000.00 Est.	N/A	\$2,500,000.00 Est.	\$3,000,000.00 Est.

**NOTICE TO CONTRACTORS:** This notice is not an order to ship. Purchase Orders against contracts will be furnished by the using agency or agencies on whose behalf the contract is made. INVOICE SHALL BE RENDERED DIRECT TO THE ORDERING AGENCY.

**NOTE:** Dollar amounts listed next to each contractor are possible award amounts, however, they do not reflect any expected purchase amounts (actual or implied). They are for CHRO use only.

**NOTICE TO AGENCIES:** A complete explanatory report shall be furnished promptly to the Procurement Manager concerning items delivered and/or services rendered on orders placed against awards listed herein which are found not to comply with the specifications or which are otherwise unsatisfactory from the agency's viewpoint, as well as failure of the contractor to deliver within a reasonable period of time specified. Please issue orders and process invoices promptly.

**CASH DISCOUNTS:** Cash discounts, if any, shall be given SPECIAL ATTENTION, but such cash discount shall not be taken unless payment is made within the discount period.

**PRICE BASIS:** Unless otherwise noted, prices include delivery and transportation charges fully prepaid f.o.b. agency. No extra charge is to be made for packing or packages.

### CONTRACTOR INFORMATION:

REFER TO THE CONTRACT ON THE DAS PROCUREMENT WEB PAGE FOR THE MOST CURRENT CONTRACTOR INFORMATION. (<http://das.ct.gov/mp1.aspx?page=8>)

Company Name: **EKTO Manufacturing Corporation**

Company Address: **83 Eagle Drive, Sanford, ME 04073**

Tel. No.: **207-324-4427**

Fax No.: **207-324-4667**

Contract Value: **\$500,000.00 Est.**

Delivery: **Per contracted terms**

Contact Person: **Willy Faessler**

Contact Person Address: **same as above**

Company E-mail Address and/or Company Web Site: [wfaessler@ekto.com](mailto:wfaessler@ekto.com) [www.ekto.com](http://www.ekto.com)

Remittance Address: **same as above**

Certification Type (SBE, MBE or None): **None**

Agrees to Supply Political SubDivisions: **NO**

Prompt Payment Terms: **Net 45**

### CONTRACTOR INFORMATION:

REFER TO THE CONTRACT ON THE DAS PROCUREMENT WEB PAGE FOR THE MOST CURRENT CONTRACTOR INFORMATION. (<http://das.ct.gov/mp1.aspx?page=8>)

Company Name: **Environics Inc**

Company Address: **69 Industrial Park Road East, Tolland, CT 06084**

Tel. No.: **860-872-1111**

Fax No.:

Contract Value: **\$500,000.00 Est.**

Delivery: **Per contracted terms**

Contact Person: **Mary Lou Colombaro**

Contact Person Address: **same as above**

Company E-mail Address and/or Company Web Site: [mcolombaro@environics.com](mailto:mcolombaro@environics.com) [www. Environics.com](http://www.Environics.com)

Remittance Address: **same as above**

Certification Type (SBE, MBE or None): **None**

Agrees to Supply Political SubDivisions: **NO**

Prompt Payment Terms: **Net 45**

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**CONTRACTOR INFORMATION:**

REFER TO THE CONTRACT ON THE DAS PROCUREMENT WEB PAGE FOR THE MOST CURRENT CONTRACTOR INFORMATION. (<http://das.ct.gov/mp1.aspx?page=8>)

*Company Name:* **Magee Scientific**

*Company Address:* **1916A Martin Luther King Jr way, Berkeley, CA 94704**

*Tel. No.:* **501-845-2801**

*Fax No.:*

*Contract Value:* **\$500,000.00 Est.**

*Contact Person:* **Gary Bridges**

*Delivery:* **Per contracted terms**

*Contact Person Address:* **same as above**

*Company E-mail Address and/or Company Web Site:* [gary.bridges@mageesci.com](mailto:gary.bridges@mageesci.com) [www.mageesci.com](http://www.mageesci.com)

*Remittance Address:* **same as above**

*Certification Type (SBE, MBE or None):* **None**

*Agrees to Supply Political SubDivisions:* **NO**

*Prompt Payment Terms:* **Net 45**

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**CONTRACTOR INFORMATION:**

REFER TO THE CONTRACT ON THE DAS PROCUREMENT WEB PAGE FOR THE MOST CURRENT CONTRACTOR INFORMATION. (<http://das.ct.gov/mp1.aspx?page=8>)

*Company Name:* **Wilbur Technical Services, LLC**

*Company Address:* **PO Box 397, 97 South Main Street, Mont Vernon, NH 03057**

*Tel. No.:* **860-677-5017 or 860-508-7714**

*Fax No.:*

*Contract Value:* **\$1,500,000.00 Est.**

*Contact Person:* **Erik Mallory**

*Delivery:* **Per contracted terms**

*Contact Person Address:*

*Company E-mail Address and/or Company Web Site:* [erikm@jjwilbur.com](mailto:erikm@jjwilbur.com) [www.jjwilbur.com](http://www.jjwilbur.com)

*Remittance Address:* **same as above**

*Certification Type (SBE, MBE or None):* **None**

*Agrees to Supply Political SubDivisions:* **NO**

*Prompt Payment Terms:* **Net 45**

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The signature below by the DAS Assistant Procurement Director is evidence that the Contractor's solicitation response has/have been accepted and that the Contractor(s) and DAS are bound by all of the terms and conditions of the Contract.

DEPARTMENT OF ADMINISTRATIVE SERVICES

By: \_\_\_\_\_  
(Original Signature on Document in Procurement Files)

Name: **CAROL WILSON**

Title: Procurement Director

Date:

# **CONTRACT**

**17PSX0210**

Between

**THE STATE OF CONNECTICUT**

Acting by its

**DEPARTMENT OF ADMINISTRATIVE SERVICES**

**AND**

**EKTO Manufacturing Corporation, Environics Inc, MAGEE Scientific, Wilbur Technical Services, LLC**

Awarded Contractor

**MISCELLANEOUS ENVIRONMENTAL AIR MONITORING EQUIPMENT, RELATED EQUIPMENT, REPLACEMENT  
PARTS, SUPPLIES AND SERVICE**



## Contract # 17PSX0210

Contract Document

SP-50 Rev. 11/17/16

Prev. Rev. 6/16/16

### ***Contract Table of Contents***

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  6. Order and Delivery
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## Contract # 17PSX0210

Contract Document

SP-50 Rev. 11/17/16

Prev. Rev. 6/16/16

This Contract (the "Contract") is made as of the Effective Date shown on the contract award form, number SP-38 corresponding to the subject procurement and is by and between, the contractor identified on such Form SP-38 (the "Contractor,") which is attached and shall be considered a part of this Contract, with a principal place of business as indicated on the signature page form, number SP-26, acting by the duly authorized representative as indicated on the SP-26, and the State of Connecticut, Department of Administrative Services ("DAS"), with a principal place of business at 450 Columbus Boulevard, Hartford, Connecticut 06103, acting by Devin Marquez, its Assistant Procurement Director, in accordance with Sections 4a-2 and 4a-51 of the Connecticut General Statutes.

Now therefore, in consideration of these presents, and for other good and valuable consideration, the receipt and sufficiency of which the parties acknowledge, the Contractor and the State agree as follows:

1. Definitions. Unless otherwise indicated, the following terms shall have the following corresponding definitions:
  - (a) Bid: A submittal in response to an Invitation to Bid.
  - (b) Claims: All actions, suits, claims, demands, investigations and proceedings of any kind, open, pending or threatened, whether mature, unmatured, contingent, known or unknown, at law or in equity, in any forum.
  - (c) Client Agency: Any department, commission, board, bureau, agency, institution, public authority, office, council, association, instrumentality or political subdivision of the State of Connecticut, as applicable, who is authorized and chooses to make purchases under, and pursuant to the terms and conditions of, this Contract.
  - (d) Confidential Information: This shall mean any name, number or other information that may be used, alone or in conjunction with any other information, to identify a specific individual including, but not limited to, such individual's name, date of birth, mother's maiden name, motor vehicle operator's license number, Social Security number, employee identification number, employer or taxpayer identification number, alien registration number, government passport number, health insurance identification number, demand deposit account number, savings account number, credit card number, debit card number or unique biometric data such as fingerprint, voice print, retina or iris image, or other unique physical representation. Without limiting the foregoing, Confidential Information shall also include any information that the Client Agency or DAS classifies as "confidential" or "restricted." Confidential Information shall not include information that may be lawfully obtained from publicly available sources or from federal, state, or local government records which are lawfully made available to the general public.
  - (e) Confidential Information Breach: This shall mean, generally, an instance where an unauthorized person or entity accesses Confidential Information in any manner, including but not limited to the following occurrences: (1) any Confidential Information that is not encrypted or protected is misplaced, lost, stolen or in any way compromised; (2) one or more third parties have had access to or taken control or possession of any Confidential Information that is not encrypted or protected without prior written authorization from the State; (3) the unauthorized acquisition of encrypted or protected Confidential Information together with the confidential process or key that is capable of compromising the integrity of the Confidential Information; or (4) if there is a substantial risk of identity theft or fraud to the Client Agency, the Contractor, DAS or State.

## Contract # 17PSX0210

Contract Document

SP-50 Rev. 11/17/16

Prev. Rev. 6/16/16

- (f) **Contract:** The agreement, as of its Effective Date, between the Contractor and the State for any or all Goods or Services at the Bid price.
  - (g) **Contractor:** A person or entity who submits a Bid and who executes a Contract.
  - (h) **Contractor Parties:** A Contractor's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, servants, consultants, employees or any one of them or any other person or entity with whom the Contractor is in privity of oral or written contract and the Contractor intends for such other person or entity to Perform under the Contract in any capacity.
  - (i) **Day:** All calendar days other than Saturdays, Sundays and days designated as national or State of Connecticut holidays upon which banks in Connecticut are closed.
  - (j) **Force Majeure:** Events that materially affect the cost of the Goods or Services or the time schedule within which to Perform and are outside the control of the party asserting that such an event has occurred, including, but not limited to, labor troubles unrelated to the Contractor, failure of or inadequate permanent power, unavoidable casualties, fire not caused by the Contractor, extraordinary weather conditions, disasters, riots, acts of God, insurrection or war.
  - (k) **Goods:** For purposes of the Contract, all things which are movable at the time that the Contract is effective and which include, without limiting this definition, supplies, materials and equipment, as specified in the Invitation to Bid and set forth in Exhibit A.
  - (l) **Goods or Services:** Goods, Services or both, as specified in the Invitation to Bid and set forth in Exhibit A.
  - (m) **Invitation to Bid:** A State request inviting bids for Goods or Services. This Contract shall be governed by the statutes, regulations and procedures of the State of Connecticut, Department of Administrative Services.
  - (n) **Records:** All working papers and such other information and materials as may have been accumulated by the Contractor in performing the Contract, including but not limited to, documents, data, plans, books, computations, drawings, specifications, notes, reports, records, estimates, summaries and correspondence, kept or stored in any form.
  - (o) **Services:** The performance of labor or work, as specified in the Invitation to Bid and set forth in Exhibit A.
  - (p) **State:** The State of Connecticut, including DAS, the Client Agency and any office, department, board, council, commission, institution or other agency of the State.
  - (q) **Termination:** An end to the Contract prior to the end of its term whether effected pursuant to a right which the Contract creates or for a breach.
  - (r) **Title:** all ownership, title, licenses, rights and interest, including, but not limited to, perpetual use, of and to the Goods or Services.
2. Term of Contract; Contract Extension. The Contract will be in effect from January 5, 2018 through December 31, 2022.

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The parties, by mutual agreement, may extend this Contract for additional terms beyond the original term, prior to Termination or expiration, one or more times for a combined total period not to exceed the complete length of the original term, but only in accordance with the section in this Contract concerning Contract Amendments.

3. Description of Goods or Services and Additional Terms and Conditions. The Contractor shall perform as set forth in Exhibit A. For purposes of this Contract, to perform and the performance in Exhibit A is referred to as "Perform" and the "Performance."
4. Price Schedule, Payment Terms and Billing, and Price Adjustments.
  - (a) Price Schedule: Price Schedule under this Contract is set forth in Exhibit B.
  - (b) Payment Terms and Billing:
    - (1) Payment shall be made only after the Client Agency receives and accepts the Goods or Services and after it receives a properly completed invoice. Unless otherwise specified in the Contract, payment for all accepted Goods or Services shall be due within forty-five (45) days after acceptance of the Goods or Services, or thirty (30) days if the Contractor is a certified small contractor or minority business enterprise as defined in Conn. Gen. Stat. § 4a-60g. The Contractor shall submit an invoice to the Client Agency for the Performance. The invoice shall include detailed information for Goods or Services, delivered and Performed, as applicable, and accepted. Any late payment charges shall be calculated in accordance with the Connecticut General Statutes.
    - (2) THE STATE SHALL MAKE ALL PAYMENTS TO THE CONTRACTOR THROUGH ELECTRONIC FUNDS TRANSFER VIA THE AUTOMATED CLEARING HOUSE ("ACH"). CONTRACTOR SHALL ENROLL IN ACH THROUGH THE OFFICE OF THE STATE COMPTROLLER PRIOR TO SENDING ANY INVOICE TO THE STATE. THE CONTRACTOR MAY OBTAIN DETAILED INFORMATION REGARDING ACH AT: [HTTP://WWW.OSC.CT.GOV/VENDOR/DIRECTDEPOSIT.HTML](http://www.osc.ct.gov/vendor/directdeposit.html).
  - (c) Notwithstanding any language regarding Contractor price increases herein, the Price Schedule will be adjusted to reflect any increase in the minimum wage rate that may occur during the term of this Contract as mandated by State law and in accordance with the terms of this section. Contractor shall provide documentation, in the form of certified payroll or other documentation acceptable to the State, substantiating the amount of any increase in Contractor labor costs as a result of changes to the minimum wage rate within ninety (90) days of the statutorily identified effective date of any increase in the minimum wage. Upon receipt, and verification of Contractor documentation DAS shall adjust the Price Schedule accordingly through a supplement to this Contract.
  - (d) Price Adjustments:

Prices for the Goods or Services listed in Exhibit B shall remain unchanged for twelve (12) months following the Effective Date of the Contract. The Contractor shall have the right to request a price adjustment only during the thirty (30) days immediately preceding the annual anniversary dates of the Effective Date of the Contract during the term of the Contract. During this thirty (30) day period, the Contractor may submit a request in writing to DAS for a price adjustment that is consistent with and relative to price changes originating with and compelled by manufacturer and/or market trends and which changes are outside of the Contractor's control. The Contractor must fully document its request, attaching to the request, without limitation, such manufacturer and market data, as support the requested adjustment. DAS may, in its sole discretion, approve or disapprove the

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requested adjustment, in whole or in part. Any approved adjustment shall be final and shall remain unchanged until the next annual anniversary date of the Effective Date of the Contract.

The Contractor shall submit all requests in accordance with Section #36. Notice. A request made to the Client Agency shall not be valid and the parties shall treat it as if the Contractor had not made the request at all. A request made to the Client Agency shall not be considered timely and shall not toll or extend the running of the thirty (30) days. The right of the Contractor to request a particular price adjustment shall lapse upon the expiration of the applicable thirty (30) days. If the Contractor fails to make a timely request, then the price shall remain unchanged from the previous year and shall continue through the next succeeding twelve (12) months and until the second annual anniversary of the Effective Date of the Contract, if approved, price adjustments shall become effective ten (10) days after the date of the approval. The Contractor shall honor any purchase orders issued prior to the effective date of the approval at the price in effect at the time of the issuance of the purchase order.

### 5. Rejected Items; Abandonment.

(a) The Contractor may deliver, cause to be delivered, or, in any other way, bring or cause to be brought, to any State premises or other destination, Goods, as samples or otherwise, and other supplies, materials, equipment or other tangible personal property. The State may, by written notice and in accordance with the terms and conditions of the Contract, direct the Contractor to remove any or all such Goods ("the "Rejected Goods") and any or all other supplies, materials, equipment or other tangible personal property (collectively, the "Contractor Property") from and out of State premises and any other location which the State manages, leases or controls. The Contractor shall remove the Rejected Goods and the Contractor Property in accordance with the terms and conditions of the written notice. Failure to remove the Rejected Goods or the Contractor Property in accordance with the terms and conditions of the written notice shall mean, for itself and all Contractor Parties, that:

- (1) they have voluntarily, intentionally, unconditionally, unequivocally and absolutely abandoned and left unclaimed the Rejected Goods and Contractor Property and relinquished all ownership, title, licenses, rights, possession and interest of, in and to (collectively, "Title") the Rejected Goods and Contractor Property with the specific and express intent of (A) terminating all of their Title to the Rejected Goods and Contractor Property, (B) vesting Title to the Rejected Goods and Contractor Property in the State of Connecticut and (C) not ever reclaiming Title or any future rights of any type in and to the Rejected Goods and Contractor Property;
- (2) there is no ignorance, inadvertence or unawareness to mitigate against the intent to abandon the Rejected Goods or Contractor Property;
- (3) they vest authority, without any further act required on their part or the State's part, in the Client Agency and the State to use or dispose of the Rejected Goods and Contractor Property, in the State's sole discretion, as if the Rejected Goods and Contractor Property were the State's own property and in accordance with law, without incurring any liability or obligation to the Contractor or any other party;
- (4) if the State incurs any costs or expenses in connection with disposing of the Rejected Goods and Contractor Property, including, but not limited to, advertising, moving or

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storing the Rejected Goods and Contractor Property, auction and other activities, the State shall invoice the Contractor for all such cost and expenses and the Contractor shall reimburse the State no later than thirty (30) days after the date of invoice; and

- (5) they do remise, release and forever discharge the State and its employees, departments, commissions, boards, bureaus, agencies, instrumentalities or political subdivisions and their respective successors, heirs, executors and assigns (collectively, the "State and Its Agents") of and from all Claims which they and their respective successors or assigns, jointly or severally, ever had, now have or will have against the State and Its Agents arising from the use or disposition of the Rejected Goods and Contractor Property.
- (b) The Contractor shall secure from each Contractor Party, such document or instrument as necessary or appropriate as will vest in the Contractor plenary authority to bind the Contractor Parties to the full extent necessary or appropriate to give full effect to all of the terms and conditions of this section. The Contractor shall provide, no later than fifteen (15) days after receiving a request from the State, such information as the State may require to evidence, in the State's sole determination, compliance with this section.
6. Order and Delivery. The Contract shall bind the Contractor to furnish and deliver the Goods or Services in accordance with Exhibit A and at the prices set forth in Exhibit B. Subject to the sections in this Contract concerning Force Majeure, Termination and Open Market Purchases, the Contract shall bind the Client Agency to order the Goods or Services from the Contractor, and to pay for the accepted Goods or Services in accordance with Exhibit B.
7. Contract Amendments. No amendment to or modification or other alteration of the Contract shall be valid or binding upon the parties unless made in writing, signed by the parties and, if applicable, approved by the Connecticut Attorney General.
8. Assignment. The Contractor shall not assign any of its rights or obligations under the Contract, voluntarily or otherwise, in any manner without the prior written consent of DAS. DAS may void any purported assignment in violation of this section and declare the Contractor in breach of Contract. Any Termination by DAS for a breach is without prejudice to DAS's or the State's rights or possible Claims.
9. Termination.
- (a) Notwithstanding any provisions in this Contract, DAS, through a duly authorized employee, may Terminate the Contract whenever DAS makes a written determination that such Termination is in the best interests of the State. DAS shall notify the Contractor in writing of Termination pursuant to this section, which notice shall specify the effective date of Termination and the extent to which the Contractor must complete its Performance under the Contract prior to such date.
- (b) Notwithstanding any provisions in this Contract, DAS, through a duly authorized employee, may, after making a written determination that the Contractor has breached the Contract, Terminate the Contract in accordance with the provisions in the Breach section of this Contract.
- (c) DAS shall send the notice of Termination via certified mail, return receipt requested, to the Contractor at the most current address which the Contractor has furnished to DAS for

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purposes of correspondence, or by hand delivery. Upon receiving the notice from DAS, the Contractor shall immediately discontinue all services affected in accordance with the notice, undertake all commercially reasonable efforts to mitigate any losses or damages, and deliver to the Client Agency all Records. The Records are deemed to be the property of the Client Agency and the Contractor shall deliver them to the Client Agency no later than thirty (30) days after the Termination of the Contract or fifteen (15) days after the Contractor receives a written request from either DAS or the Client Agency for the Records. The Contractor shall deliver those Records that exist in electronic, magnetic or other intangible form in a non-proprietary format, such as, but not limited to, ASCII or .TXT.

- (d) Upon receipt of a written notice of Termination from DAS, the Contractor shall cease operations as DAS directs in the notice, and take all actions that are necessary or appropriate, or that DAS may reasonably direct, for the protection, and preservation of the Goods and any other property. Except for any work which DAS directs the Contractor to Perform in the notice prior to the effective date of Termination, and except as otherwise provided in the notice, the Contractor shall terminate or conclude all existing subcontracts and purchase orders and shall not enter into any further subcontracts, purchase orders or commitments.
  - (e) The Client Agency shall, within forty-five (45) days of the effective date of Termination, reimburse the Contractor for its Performance rendered and accepted by the Client Agency in accordance with Exhibit A, in addition to all actual and reasonable costs incurred after Termination in completing those portions of the Performance which the notice required the Contractor to complete. However, the Contractor is not entitled to receive and the Client Agency is not obligated to tender to the Contractor any payments for anticipated or lost profits. Upon request by DAS or the Client Agency, as applicable, the Contractor shall assign to DAS or the Client Agency, or any replacement contractor which DAS or the Client Agency designates, all subcontracts, purchase orders and other commitments, deliver to DAS or the Client Agency all Records and other information pertaining to its Performance, and remove from State premises, whether leased or owned, all of Contractor's property, equipment, waste material and rubbish related to its Performance, all as DAS or the Client Agency may request.
  - (f) For breach or violation of any of the provisions in the section concerning Representations and Warranties, DAS may Terminate the Contract in accordance with its terms and revoke any consents to assignments given as if the assignments had never been requested or consented to, without liability to the Contractor or Contractor Parties or any third party.
  - (g) Upon Termination of the Contract, all rights and obligations shall be null and void, so that no party shall have any further rights or obligations to any other party, except with respect to the sections which survive Termination. All representations, warranties, agreements and rights of the parties under the Contract shall survive such Termination to the extent not otherwise limited in the Contract and without each one of them having to be specifically mentioned in the Contract.
  - (h) Termination of the Contract pursuant to this section shall not be deemed to be a breach of contract by DAS.
10. **Cost Modifications.** The parties may agree to a reduction in the cost of the Contract at any time during which the Contract is in effect. Without intending to impose a limitation on the nature of the reduction, the reduction may be to hourly, staffing or unit costs, the total cost

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of the Contract or the reduction may take such other form as the State deems to be necessary or appropriate.

11. Breach. If either party breaches the Contract in any respect, the non-breaching party shall provide written notice of such breach to the breaching party and afford the breaching party an opportunity to cure the breach within ten (10) days from the date that the breaching party receives such notice. Any other time provided for in the notice shall trump such ten (10) days. Such right to cure period shall be extended if the non-breaching party is satisfied that the breaching party is making a good faith effort to cure but the nature of the breach is such that it cannot be cured within the right to cure period. The notice may include an effective Contract Termination date if the breach is not cured by the stated date and, unless otherwise modified by the non-breaching party in writing prior to the Termination date, no further action shall be required of any party to effect the Termination as of the stated date. If the notice does not set forth an effective Contract Termination date, then the non-breaching party may Terminate the Contract by giving the breaching party no less than twenty four (24) hours' prior written notice. If DAS believes that the Contractor has not performed according to the Contract, the Client Agency may withhold payment in whole or in part pending resolution of the Performance issue, provided that DAS notifies the Contractor in writing prior to the date that the payment would have been due in accordance with Exhibit B.
12. Waiver.
  - (a) No waiver of any breach of the Contract shall be interpreted or deemed to be a waiver of any other or subsequent breach. All remedies afforded in the Contract shall be taken and construed as cumulative, that is, in addition to every other remedy provided in the Contract or at law or in equity.
  - (b) A party's failure to insist on strict performance of any provision of the Contract shall only be deemed to be a waiver of rights and remedies concerning that specific instance of Performance and shall not be deemed to be a waiver of any subsequent rights, remedies or breach.
13. Open Market Purchases. Failure of the Contractor to Perform within the time specified in the Contract, or failure to replace rejected or substandard Goods or fulfill unperformed Services when so requested and as the Contract provides or allows, constitutes a breach of the Contract and as a remedy for such breach, such failure shall constitute authority for DAS, if it deems it to be necessary or appropriate in its sole discretion, to Terminate the Contract and/or to purchase on the open market, Goods or Services to replace those which have been rejected, not delivered, or not Performed. The Client Agency shall invoice the Contractor for all such purchases to the extent that they exceed the costs and expenses in Exhibit B and the Contractor shall pay the Client Agency's invoice immediately after receiving the invoice. If DAS does not Terminate the Contract, the Client Agency will deduct such open market purchases from the Contract quantities. However, if the Client Agency deems it to be in the best interest of the State, the Client Agency may accept and use the Goods or Services delivered which are substandard in quality, subject to an adjustment in price to be determined by the Client Agency.
14. Purchase Orders.



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- (a) The Contract itself is not an authorization for the Contractor to ship Goods or begin Performance in any way. The Contractor may begin Performance only after it has received a duly issued purchase order against the Contract for Performance.
- (b) The Client Agency shall issue a purchase order against the Contract directly to the Contractor and to no other party.
- (c) All purchase orders shall be in written or electronic form, bear the Contract number (if any) and comply with all other State and Client Agency requirements, particularly the Client Agency's requirements concerning procurement. Purchase orders issued in compliance with such requirements shall be deemed to be duly issued.
- (d) A Contractor making delivery without a duly issued purchase order in accordance with this section does so at the Contractor's own risk.
- (e) The Client Agency may, in its sole discretion, deliver to the Contractor any or all duly issued purchase orders via electronic means only, such that the Client Agency shall not have any additional obligation to deliver to the Contractor a "hard copy" of the purchase order or a copy bearing any hand-written signature or other "original" marking.

### 15. Indemnification.

- (a) The Contractor shall indemnify, defend and hold harmless the State and its officers, representatives, agents, servants, employees, successors and assigns from and against any and all (1) Claims arising, directly or indirectly, in connection with the Contract, including the acts of commission or omission (collectively, the "Acts") of the Contractor or Contractor Parties; and (2) liabilities, damages, losses, costs and expenses, including but not limited to, attorneys' and other professionals' fees, arising, directly or indirectly, in connection with Claims, Acts or the Contract. The Contractor shall use counsel reasonably acceptable to the State in carrying out its obligations under this section. The Contractor's obligations under this section to indemnify, defend and hold harmless against Claims includes Claims concerning confidentiality of any part of or all of the Contractor's bid, proposal or any Records, any intellectual property rights, other proprietary rights of any person or entity, copyrighted or uncopyrighted compositions, secret processes, patented or unpatented inventions, articles or appliances furnished or used in the Performance.
- (b) The Contractor shall not be responsible for indemnifying or holding the State harmless from any liability arising due to the negligence of the State or any other person or entity acting under the direct control or supervision of the State.
- (c) The Contractor shall reimburse the State for any and all damages to the real or personal property of the State caused by the Acts of the Contractor or any Contractor Parties. The State shall give the Contractor reasonable notice of any such Claims.
- (d) The Contractor's duties under this section shall remain fully in effect and binding in accordance with the terms and conditions of the Contract, without being lessened or compromised in any way, even where the Contractor is alleged or is found to have merely contributed in part to the Acts giving rise to the Claims and/or where the State is alleged or is found to have contributed to the Acts giving rise to the Claims.
- (e) The Contractor shall carry and maintain at all times during the term of the Contract, and during the time that any provisions survive the term of the Contract, sufficient general

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liability insurance to satisfy its obligations under this Contract. The Contractor shall cause the State to be named as an additional insured on the policy and shall provide (1) a certificate of insurance, (2) the declaration page and (3) the additional insured endorsement to the policy to DAS all in an electronic format acceptable to DAS prior to the Effective Date of the Contract evidencing that the State is an additional insured. The Contractor shall not begin Performance until the delivery of these 3 documents to DAS. Contractor shall provide an annual electronic update of the 3 documents to DAS on or before each anniversary of the Effective Date during the Contract Term. State shall be entitled to recover under the insurance policy even if a body of competent jurisdiction determines that State is contributorily negligent.

(f) This section shall survive the Termination of the Contract and shall not be limited by reason of any insurance coverage.

16. Forum and Choice of Law. The parties deem the Contract to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Contract to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Contractor waives any objection which it may now have or will have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

17. Contractor Guaranties. Contractor shall:

- (a) Perform fully under the Contract;
- (b) Guarantee the Goods or Services against defective material or workmanship and to repair any damage or marring occasioned in transit or, at the Client Agency's option, replace them;
- (c) Furnish adequate protection from damage for all work and to repair damage of any kind, for which its workers are responsible, to the premises, Goods, the Contractor's work or that of Contractor Parties;
- (d) With respect to the provision of Services, pay for all permits, licenses and fees and give all required or appropriate notices;
- (e) Adhere to all Contractual provisions ensuring the confidentiality of Records that the Contractor has access to and are exempt from disclosure under the State's Freedom of Information Act or other applicable law; and
- (f) Neither disclaim, exclude nor modify the implied warranties of fitness for a particular purpose or of merchantability.

18. Implied Warranties. DAS does not disclaim, exclude or modify the implied warranty of fitness for a particular purpose or the warranty of merchantability.

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19. Goods, Standards and Appurtenances. Any Goods delivered must be standard new Goods, latest model, except as otherwise specifically stated in the Contract. Remanufactured, refurbished or reconditioned equipment may be accepted but only to the extent allowed under the Contract. Where the Contract does not specifically list or describe any parts or nominal appurtenances of equipment for the Goods, it shall be understood that the Contractor shall deliver such equipment and appurtenances as are usually provided with the manufacturer's stock model.
20. Delivery.
- (a) Delivery shall be made as ordered and in accordance with the Contract. Unless otherwise specified in the Contract, delivery shall be to a loading dock or receiving platform. The Contractor or Contractor's shipping designee shall be responsible for removal of Goods from the carrier and placement on the Client Agency loading dock or receiving platform. The receiving personnel of the Client Agency are not required to assist in this process. The decision of DAS as to reasonable compliance with delivery terms shall be final and binding. The burden of proof of proper receipt of the order shall rest with the Contractor.
  - (b) In order for the time of delivery to be extended, the Client Agency must first approve a request for extension from the time specified in the Contract, such extension applying only to the particular item or shipment.
  - (c) Goods shall be securely and properly packed for shipment, according to accepted standard commercial practice, without extra charge for packing cases, baling or sacks. The containers shall remain the property of the Client Agency unless otherwise stated in the Contract.
  - (d) All risk of loss and damage to the Goods transfers to the Client Agency upon Title vesting in the Client Agency.
21. Goods Inspection. The Commissioner of DAS, in consultation with the Client Agency, shall determine the manner and prescribe the inspection of all Goods and the tests of all samples submitted to determine whether they comply with all of the specifications in the Contract. If any Goods fail in any way to meet the specifications in the Contract, the Client Agency or the Commissioner of DAS may, in its sole discretion, either reject it and owe nothing or accept it and pay for it on an adjusted price basis, depending on the degree to which the Goods meet the specifications. Any decision pertaining to any such failure or rejection shall be final and binding.
22. Emergency Standby for Goods and/or Services. If any Federal or State official, having authority to do so, declares an emergency or the occurrence of a natural disaster within the State of Connecticut, DAS and the Client Agency may request the Goods and Services on an expedited and prioritized basis. Upon receipt of such a request the Contractor shall make all necessary and appropriate commercially reasonable efforts to reallocate its staffing and other resources in order to give primary preference to Performing this Contract ahead of or prior to fulfilling, in whole or in part, any other contractual obligations that the Contractor may have. The Contractor is not obligated to make those efforts to Perform on an expedited and prioritized basis in accordance with this paragraph if doing so will make the Contractor materially breach any other contractual obligations that the Contractor may have. Contractor shall acknowledge receipt of any request made pursuant to this paragraph within 2 hours from the time that the Contractor receives it via purchase order or through a request to make an expedited or prioritized purchase through the State of Connecticut Purchasing Card (MasterCard) Program (the "P-Card Program"). If the

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Contractor fails to acknowledge receipt within 2 hours, confirm its obligation to Perform or actually Perform, as set forth in the purchase order or through the P-Card Program, then DAS and the Client Agency may procure the Performance from another source without further notice to Contractor and without creating any right of recourse at law or in equity against DAS or Client Agency.

23. Setoff. In addition to all other remedies available hereunder, the State, in its sole discretion, may setoff (1) any costs or expenses that the State incurs resulting from the Contractor's unexcused nonperformance under the Contract and under any other agreement or arrangement that the Contractor has with the State and (2) any other amounts that are due or may become due from the State to the Contractor, against amounts otherwise due or that may become due to the Contractor under the Contract, or under any other agreement or arrangement that the Contractor has with the State. The State's right of setoff shall not be deemed to be the State's exclusive remedy for the Contractor's or Contractor Parties' breach of the Contract, all of which shall survive any setoffs by the State.
24. Force Majeure. The State and the Contractor shall not be excused from their obligation to Perform in accordance with the Contract except in the case of Force Majeure events and as otherwise provided for in the Contract. In the case of any such exception, the nonperforming party shall give immediate written notice to the other, explaining the cause and probable duration of any such nonperformance.
25. Advertising. The Contractor shall not refer to sales to the State for advertising or promotional purposes, including, but not limited to, posting any material or data on the Internet, without DAS's prior written approval.
26. Americans With Disabilities Act. The Contractor shall be and remain in compliance with the Americans with Disabilities Act of 1990 ("Act"), to the extent applicable, during the term of the Contract. DAS may Terminate the Contract if the Contractor fails to comply with the Act.
27. Representations and Warranties. The Contractor, represents and warrants to DAS for itself and Contractor Parties, that:
  - (a) if they are entities, they are duly and validly existing under the laws of their respective states of organization and authorized to conduct business in the State of Connecticut in the manner contemplated by the Contract. Further, as appropriate, they have taken all necessary action to authorize the execution, delivery and Performance of the Contract and have the power and authority to execute, deliver and Perform their obligations under the Contract;
  - (b) they will comply with all applicable State and Federal laws and municipal ordinances in satisfying their obligations to the State under and pursuant to the Contract, including, but not limited to (1) Connecticut General Statutes Title 1, Chapter 10, concerning the State's Codes of Ethics and (2) Title 4a concerning State purchasing, including, but not limited to Section 22a-194a concerning the use of polystyrene foam;
  - (c) the execution, delivery and Performance of the Contract will not violate, be in conflict with, result in a breach of or constitute (with or without due notice and/or lapse of time) a default under any of the following, as applicable: (1) any provision of law; (2) any order of any court or the State; or (3) any indenture, agreement, document or other instrument to which it is a party or by which it may be bound;

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- (d) they are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any governmental entity;
- (e) as applicable, they have not, within the three years preceding the Contract, in any of their current or former jobs, been convicted of, or had a civil judgment rendered against them or against any person who would Perform under the Contract, for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a transaction or contract with any governmental entity. This includes, but is not limited to, violation of Federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (f) they are not presently indicted for or otherwise criminally or civilly charged by any governmental entity with commission of any of the offenses listed above;
- (g) they have not within the three years preceding the Contract had one or more contracts with any governmental entity Terminated;
- (h) they have not employed or retained any entity or person, other than a bona fide employee working solely for them, to solicit or secure the Contract and that they have not paid or agreed to pay any entity or person, other than a bona fide employee working solely for them, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of the Contract or any assignments made in accordance with the terms of the Contract;
- (i) to the best of their knowledge, there are no Claims involving the Contractor or Contractor Parties that might reasonably be expected to materially adversely affect their businesses, operations, assets, properties, financial stability, business prospects or ability to Perform fully under the Contract;
- (j) they shall disclose, to the best of their knowledge, to DAS in writing any Claims involving them that might reasonably be expected to materially adversely affect their businesses, operations, assets, properties, financial stability, business prospects or ability to Perform fully under the Contract, no later than ten (10) Days after becoming aware or after they should have become aware of any such Claims. For purposes of the Contractor's obligation to disclose any Claims to DAS, the ten (10) Days in the section of this Contract concerning Disclosure of Contractor Parties Litigation shall run consecutively with the ten (10) Days provided for in this representation and warranty;
- (k) their participation in the Invitation to Bid process is not a conflict of interest or a breach of ethics under the provisions of Title 1, Chapter 10 of the Connecticut General Statutes concerning the State's Code of Ethics;
- (l) the Bid was not made in connection or concert with any other person or entity, including any affiliate (as defined in the Tangible Personal Property section of this Contract) of the Contractor, submitting a bid for the same Goods or Services, and is in all respects fair and without collusion or fraud;
- (m) they are able to Perform under the Contract using their own resources or the resources of a party who is not a Contractor;

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- (n) the Contractor shall obtain in a written contract all of the representations and warranties in this section from any Contractor Parties and to require that provision to be included in any contracts and purchase orders with Contractor Parties;
- (o) they have paid all applicable workers' compensation second injury fund assessments concerning all previous work done in Connecticut;
- (p) they have a record of compliance with Occupational Health and Safety Administration regulations without any unabated, willful or serious violations;
- (q) they owe no unemployment compensation contributions;
- (r) they are not delinquent in the payment of any taxes owed, or, that they have filed a sales tax security bond, and they have, if and as applicable, filed for motor carrier road tax stickers and have paid all outstanding road taxes;
- (s) all of their vehicles have current registrations and, unless such vehicles are no longer in service, they shall not allow any such registrations to lapse;
- (t) each Contractor Party has vested in the Contractor plenary authority to bind the Contractor Parties to the full extent necessary or appropriate to ensure full compliance with and Performance in accordance with all of the terms and conditions of the Contract and that all appropriate parties shall also provide to DAS, no later than fifteen (15) days after receiving a request from DAS, such information as DAS may require to evidence, in DAS's sole determination, compliance with this section;
- (u) except to the extent modified or abrogated in the Contract, all Title shall pass to the Client Agency upon complete installation, testing and acceptance of the Goods or Services and payment by the Client Agency;
- (v) if either party Terminates the Contract, for any reason, they shall relinquish to the Client Agency all Title to the Goods delivered, accepted and paid for (except to the extent any invoiced amount is disputed) by the Client Agency;
- (w) with regard to third party products provided with the Goods, they shall transfer all licenses which they are permitted to transfer in accordance with the applicable third party license;
- (x) they shall not copyright, register, distribute or claim any rights in or to the Goods after the Effective Date of the Contract without DAS's prior written consent;
- (y) they either own or have the authority to use all Title of and to the Goods, and that such Title is not the subject of any encumbrances, liens or claims of ownership by any third party;
- (z) the Goods do not infringe or misappropriate any patent, trade secret or other intellectual property right of a third party;
- (aa) the Client Agency's use of any Goods shall not infringe or misappropriate any patent, trade secret or other intellectual property right of a third party;
- (bb) if they procure any Goods, they shall sub-license such Goods and that the Client Agency shall be afforded the full benefits of any manufacturer or subcontractor licenses for the use of the Goods; and

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(cc) they shall assign or otherwise transfer to the Client Agency, or afford the Client Agency the full benefits of any manufacturer's warranty for the Goods, to the extent that such warranties are assignable or otherwise transferable to the Client Agency.

28. Representations and Warranties Concerning Motor Vehicles. If in the course of Performance or in any other way related to the Contract the Contractor at any time uses or operates "motor vehicles," as that term is defined by Conn. Gen. Stat. §14-1 (including, but not limited to such services as snow plowing, sanding, hauling or delivery of materials, freight or merchandise, or the transportation of passengers), the Contractor, represents and warrants for itself and the Contractor Parties, that:

- (a) It is the owner of record or lessee of record of each such motor vehicle used in the Performance of the Contract, and each such motor vehicle is duly registered with the Connecticut Department of Motor Vehicles ("ConnDMV") in accordance with the provisions of Chapter 246 of the Connecticut General Statutes. Each such registration shall be in valid status, and shall not be expired, suspended or revoked by ConnDMV, for any reason or cause. If such motor vehicle is not registered with ConnDMV, then it shall be duly registered with another state or commonwealth in accordance with such other state's or commonwealth's applicable statutes. Each such registration shall be in valid status, and shall not be expired, suspended or revoked by such other state or commonwealth for any reason or cause.
- (b) Each such motor vehicle shall be fully insured in accordance with the provisions of Sections 14-12b, 14-112 and 38a-371 of the Connecticut General Statutes, as amended, in the amounts required by the said sections or in such higher amounts as have been specified by ConnDMV as a condition for the award of the Contract, or in accordance with all substantially similar provisions imposed by the law of the jurisdiction where the motor vehicle is registered.
- (c) Each Contractor Party who uses or operates a motor vehicle at any time in the Performance of the Contract shall have and maintain a motor vehicle operator's license or commercial driver's license of the appropriate class for the motor vehicle being used or operated. Each such license shall bear the endorsement or endorsements required by the provisions of Section 14-36a of the Connecticut General Statutes, as amended, to operate such motor vehicle, or required by substantially similar provisions imposed by the law of another jurisdiction in which the operator is licensed to operate such motor vehicle. The license shall be in valid status, and shall not be expired, suspended or revoked by ConnDMV or such other jurisdiction for any reason or cause.
- (d) Each motor vehicle shall be in full compliance with all of the terms and conditions of all provisions of the Connecticut General Statutes and regulations, or those of the jurisdiction where the motor vehicle is registered, pertaining to the mechanical condition, equipment, marking and operation of motor vehicles of such type, class and weight, including, but not limited to, requirements for intrastate carriers with motor vehicles having a gross vehicle weight rating or gross combination weight rating or gross vehicle weight or gross combination weight of 18,001 pounds or more or interstate carriers with motor vehicles having a gross vehicle weight rating or gross combination weight rating or gross vehicle weight or gross combination weight of 10,001 pounds or more otherwise described by the provisions of Conn. Gen. Stat. § 14-163c(a) and all applicable provisions of the Federal Motor Carrier Safety Regulations, as set forth in Title 49, Parts 382 to 399, inclusive, of the Code of Federal Regulations. If the Contractor is a "motor carrier," as that term is defined in

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section 49 CFR Part 390, and the Contractor is subject to an order issued by the Federal Motor Carrier Safety Administration that prohibits such Contractor from operating or allowing the operation of a motor vehicle, then the Contractor shall comply fully with such order. In addition, if a motor vehicle or its operator is declared out of service pursuant to Conn. Gen. Stat. § 14-163c(d)(4), then the Contractor shall not operate or allow the operation of that motor vehicle and shall not allow the operator to operate a motor vehicle while the respective subject out-of-service order is in effect.

29. Disclosure of Contractor Parties Litigation. The Contractor shall require that all Contractor Parties, as appropriate, disclose to the Contractor, to the best of their knowledge, any Claims involving the Contractor Parties that might reasonably be expected to materially adversely affect their businesses, operations, assets, properties, financial stability, business prospects or ability to Perform fully under the Contract, no later than ten (10) Days after becoming aware or after they should have become aware of any such Claims. Disclosure shall be in writing.
30. Entirety of Contract. The Contract is the entire agreement between the parties with respect to its subject matter, and supersedes all prior agreements, bids, offers, counteroffers and understandings of the parties, whether written or oral. The Contract has been entered into after full investigation, neither party relying upon any statement or representation by the other unless such statement or representation is specifically embodied in the Contract.
31. Exhibits. All exhibits referred to in and attached to this Contract are incorporated in this Contract by such reference and shall be deemed to be a part of it as if they had been fully set forth in it.
32. Executive Orders. This Contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of the Contract as if they had been fully set forth in it. The Contract may also be subject to Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services and to Executive Order No. 49 of Governor Dannel P. Malloy, promulgated May 22, 2015, mandating disclosure of certain gifts to public employees and contributions to certain candidates for office. If Executive Order 14 and/or Executive Order 49 are applicable, they are deemed to be incorporated into and are made a part of the Contract as if they had been fully set forth in it. At the Contractor's request, the Client Agency or DAS shall provide a copy of these orders to the Contractor.
33. Non-discrimination.
- (a) For purposes of this Section, the following terms are defined as follows:
- (1) "Commission" means the Commission on Human Rights and Opportunities;
  - (2) "Contract" and "contract" include any extension or modification of the Contract or contract;
  - (3) "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;



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(4) "Gender identity or expression" means a person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose.

(5) "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;

(6) "good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements;

(7) "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced;

(8) "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders;

(9) "minority business enterprise" means any small contractor or supplier of materials fifty-one percent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise, and (3) who are members of a minority, as such term is defined in subsection (a) of Connecticut General Statutes § 32-9n; and

(10) "public works contract" means any agreement between any individual, firm or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

For purposes of this Section, the terms "Contract" and "contract" do not include a contract where each contractor is (1) a political subdivision of the state, including, but not limited to, a municipality, (2) a quasi-public agency, as defined in Conn. Gen. Stat. Section 1-120, (3) any other state, including but not limited to any federally recognized Indian tribal governments, as defined in Conn. Gen. Stat. Section 1-267, (4) the federal government, (5) a foreign government, or (6) an agency of a subdivision, agency, state or government described in the immediately preceding enumerated items (1), (2), (3), (4) or (5).

(b)

(1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin,

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ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut; and the Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission; (3) the Contractor agrees to provide each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which the Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union or workers' representative of the Contractor's commitments under this section and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of this Section and Connecticut General Statutes §§ 46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes §§ 46a-56, 46a-68e and 46a-68f; and (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this Section and Connecticut General Statutes § 46a-56. If the contract is a public works contract, the Contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works projects.

- (c) Determination of the Contractor's good faith efforts shall include, but shall not be limited to, the following factors: The Contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.
- (d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.
- (e) The Contractor shall include the provisions of subsection (b) of this Section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Connecticut General Statutes §46a-56; provided if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

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- (f) The Contractor agrees to comply with the regulations referred to in this Section as they exist on the date of this Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.
- (g)
  - (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes § 46a-56; and (4) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor which relate to the provisions of this Section and Connecticut General Statutes § 46a-56.
- (h) The Contractor shall include the provisions of the foregoing paragraph in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Connecticut General Statutes § 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

### 34. Tangible Personal Property.

- (a) The Contractor on its behalf and on behalf of its Affiliates, as defined below, shall comply with the provisions of Conn. Gen. Stat. §12-411b, as follows:
  - (1) For the term of the Contract, the Contractor and its Affiliates shall collect and remit to the State of Connecticut, Department of Revenue Services, any Connecticut use tax due under the provisions of Chapter 219 of the Connecticut General Statutes for items of tangible personal property sold by the Contractor or by any of its Affiliates in the same manner as if the Contractor and such Affiliates were engaged in the business of selling tangible personal property for use in Connecticut and had sufficient nexus under the provisions of Chapter 219 to be required to collect Connecticut use tax;
  - (2) A customer's payment of a use tax to the Contractor or its Affiliates relieves the customer of liability for the use tax;

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- (3) The Contractor and its Affiliates shall remit all use taxes they collect from customers on or before the due date specified in the Contract, which may not be later than the last day of the month next succeeding the end of a calendar quarter or other tax collection period during which the tax was collected;
    - (4) The Contractor and its Affiliates are not liable for use tax billed by them but not paid to them by a customer; and
    - (5) Any Contractor or Affiliate who fails to remit use taxes collected on behalf of its customers by the due date specified in the Contract shall be subject to the interest and penalties provided for persons required to collect sales tax under chapter 219 of the general statutes.
  - (b) For purposes of this section of the Contract, the word "Affiliate" means any person, as defined in section 12-1 of the general statutes, that controls, is controlled by, or is under common control with another person. A person controls another person if the person owns, directly or indirectly, more than ten per cent of the voting securities of the other person. The word "voting security" means a security that confers upon the holder the right to vote for the election of members of the board of directors or similar governing body of the business, or that is convertible into, or entitles the holder to receive, upon its exercise, a security that confers such a right to vote. "Voting security" includes a general partnership interest.
  - (c) The Contractor represents and warrants that each of its Affiliates has vested in the Contractor plenary authority to so bind the Affiliates in any agreement with the State of Connecticut. The Contractor on its own behalf and on behalf of its Affiliates shall also provide, no later than 30 days after receiving a request by the State's contracting authority, such information as the State may require to ensure, in the State's sole determination, compliance with the provisions of Chapter 219 of the Connecticut General Statutes, including, but not limited to, §12-411b.
35. Whistleblowing. This Contract may be subject to the provisions of Section 4-61dd of the Connecticut General Statutes. In accordance with this statute, if an officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of information to any employee of the contracting state or quasi-public agency or the Auditors of Public Accounts or the Attorney General under the provisions of subsection (a) of such statute, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of this Contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation, each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The State may request that the Attorney General bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) of such statute, each large state contractor, as defined in the statute, shall post a notice of the provisions of the statute relating to large state contractors in a conspicuous place which is readily available for viewing by the employees of the Contractor.
36. Notice. All notices, demands, requests, consents, approvals or other communications required or permitted to be given or which are given with respect to this Contract (for the purpose of this section collectively called "Notices") shall be deemed to have been effected at such time as the notice is placed in the U.S. mail, first class and postage pre-paid, return receipt requested or placed with a recognized, overnight express delivery service that

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provides for a return receipt. All such Notices shall be in writing and shall be addressed as follows:

If to DAS:

State of Connecticut Department of Administrative Services  
Procurement Division  
450 Columbus Boulevard, Suite 1202  
Hartford, CT 06103  
Attention: Arlene Watson-Paulin

If to the Contractor:

At the address set forth on Form SP-38.

37. Insurance. Before commencing Performance, the Contractor shall obtain and maintain at its own cost and expense for the duration of the Contract, the following insurance as described in (a) through (h) below. Contractor shall assume any and all deductibles in the described insurance policies. The Contractor's insurers shall have no right of recovery or subrogation against the State and the described Contractor's insurance shall be primary coverage. Any failure to comply with the claim reporting provisions of the policy shall not affect coverage provided to the State.

(a) Reserved

(b) Commercial General Liability: \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. Coverage shall include, Premises and Operations, Independent Contractors, Products and Completed Operations, Contractual Liability and Broad Form Property Damage coverage. If a general aggregate is used, the general aggregate limit shall apply separately to the project or the general aggregate limit shall be twice the occurrence limit.

(c) Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury. Coverage extends to owned, hired and non-owned automobiles. If the vendor/contractor does not own an automobile, but one is used in the execution of the contract, then only hired and non-owned coverage is required. If a vehicle is not used in the execution of the contract then automobile coverage is not required.

(d) Workers' Compensation and Employers Liability: Statutory coverage in compliance with the Compensation laws of the State of Connecticut. Coverage shall include Employer's Liability with minimum limits of \$100,000 each accident, \$500,000 Disease – Policy limit, \$100,000 each employee.

(e) Reserved

(f) Umbrella Liability: Excess/umbrella liability insurance may be included to meet minimum requirements. Umbrella coverage must indicate the existing underlying insurance coverage.

(g) Claims Made: Not acceptable with the exception of Professional Liability when specified.

(h) Reserved

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38. Headings. The headings given to the sections in the Contract are inserted only for convenience and are in no way to be construed as part of the Contract or as a limitation of the scope of the particular section to which the heading refers.
39. Number and Gender. Whenever the context so requires, the plural or singular shall include each other and the use of any gender shall include all genders.
40. Parties. To the extent that any Contractor Party is to participate or Perform in any way, directly or indirectly in connection with the Contract, any reference in the Contract to "Contractor" shall also be deemed to include "Contractor Parties," as if such reference had originally specifically included "Contractor Parties" since it is the parties' intent for the terms "Contractor Parties" to be vested with the same respective rights and obligations as the term "Contractor."
41. Contractor Changes. The Contractor shall notify DAS in writing no later than ten (10) Days from the effective date of any change in:
- a. its certificate of incorporation or other organizational document;
  - b. more than a controlling interest in the ownership of the Contractor; or
  - c. the individual(s) in charge of the Performance.

This change shall not relieve the Contractor of any responsibility for the accuracy and completeness of the Performance. DAS, after receiving written notice by the Contractor of any such change, may require such agreements, releases and other instruments evidencing, to DAS's satisfaction, that any individuals retiring or otherwise separating from the Contractor have been compensated in full or that provision has been made for compensation in full, for all work performed under terms of the Contract. The Contractor shall deliver such documents to DAS in accordance with the terms of DAS's written request. DAS may also require, and the Contractor shall deliver, a financial statement showing that solvency of the Contractor is maintained. The death of any Contractor Party, as applicable, shall not release the Contractor from the obligation to Perform under the Contract; the surviving Contractor Parties, as appropriate, must continue to Perform under the Contract until Performance is fully completed.

42. Further Assurances. The parties shall provide such information, execute and deliver any instruments and documents and take such other actions as may be necessary or reasonably requested by the other party which are not inconsistent with the provisions of this Contract and which do not involve the vesting of rights or assumption of obligations other than those provided for in the Contract, in order to give full effect to the Contract and to carry out the intent of the Contract.
43. Audit and Inspection of Plants, Places of Business and Records.
- (a) The State and its agents, including, but not limited to, the Connecticut Auditors of Public Accounts, Attorney General and State's Attorney and their respective agents, may, at reasonable hours, inspect and examine all of the parts of the Contractor's and Contractor Parties' plants and places of business which, in any way, are related to, or involved in, the performance of this Contract.

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- (b) The Contractor shall maintain, and shall require each of the Contractor Parties to maintain, accurate and complete Records. The Contractor shall make all of its and the Contractor Parties' Records available at all reasonable hours for audit and inspection by the State and its agents.
  - (c) The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least twenty-four (24) hours' notice prior to the requested audit and inspection date. If the State suspects fraud or other abuse, or in the event of an emergency, the State is not obligated to provide any prior notice.
  - (d) The Contractor will pay for all costs and expenses of any audit or inspection which reveals information that, in the sole determination of the State, is sufficient to constitute a breach by the Contractor under this Contract. The Contractor will remit full payment to the State for such audit or inspection no later than 30 days after receiving an invoice from the State. If the State does not receive payment within such time, the State may setoff the amount from any moneys which the State would otherwise be obligated to pay the Contractor in accordance with this Contract's Setoff provision.
  - (e) The Contractor shall keep and preserve or cause to be kept and preserved all of its and Contractor Parties' Records until three (3) years after the latter of (i) final payment under this Contract, or (ii) the expiration or earlier termination of this Contract, as the same may be modified for any reason. The State may request an audit or inspection at any time during this period. If any Claim or audit is started before the expiration of this period, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.
  - (f) The Contractor shall cooperate fully with the State and its agents in connection with an audit or inspection. Following any audit or inspection, the State may conduct and the Contractor shall cooperate with an exit conference.
  - (g) The Contractor shall incorporate this entire Section verbatim into any contract or other agreement that it enters into with any Contractor Party.
44. Background Checks. The State may require that the Contractor and Contractor Parties undergo criminal background checks as provided for in the State of Connecticut Department of Emergency Services and Public Protection Administration and Operations Manual or such other State document as governs procedures for background checks. The Contractor and Contractor Parties shall cooperate fully as necessary or reasonably requested with the State and its agents in connection with such background checks.
45. Continued Performance. The Contractor and Contractor Parties shall continue to Perform their obligations under the Contract while any dispute concerning the Contract is being resolved.
46. Working and Labor Synergies. The Contractor shall be responsible for maintaining a tranquil working relationship between the Contractor work force, the Contractor Parties and their work force, State employees, and any other contractors present at the work site. The Contractor shall quickly resolve all labor disputes which result from the Contractor's or Contractor Parties' presence at the work site, or other action under their control. Labor disputes shall not be deemed to be sufficient cause to allow the Contractor to make any claim for additional compensation for cost, expenses or any other loss or damage, nor shall those disputes be deemed to be sufficient reason to relieve the Contractor from any of its obligations under the Contract.

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### 47. Contractor Responsibility.

- (a) The Contractor shall be responsible for the entire Performance under the Contract regardless of whether the Contractor itself performs. The Contractor shall be the sole point of contact concerning the management of the Contract, including Performance and payment issues. The Contractor is solely and completely responsible for adherence by the Contractor Parties to all applicable provisions of the Contract.
- (b) The Contractor shall exercise all reasonable care to avoid damage to the State's property or to property being made ready for the State's use, and to all property adjacent to any work site. The Contractor shall promptly report any damage, regardless of cause, to the State.

48. Severability. If any term or provision of the Contract or its application to any person, entity or circumstance shall, to any extent, be held to be invalid or unenforceable, the remainder of the Contract or the application of such term or provision shall not be affected as to persons, entities or circumstances other than those as to whom or to which it is held to be invalid or unenforceable. Each remaining term and provision of the Contract shall be valid and enforced to the fullest extent possible by law.

49. Confidential Information. The State will afford due regard to the Contractor's request for the protection of proprietary or confidential information which the State receives. However, all materials associated with the Bid and the Contract are subject to the terms of the Connecticut Freedom of Information Act ("FOIA") and all corresponding rules, regulations and interpretations. In making such a request, the Contractor may not merely state generally that the materials are proprietary or confidential in nature and not, therefore, subject to release to third parties. Those particular sentences, paragraphs, pages or sections that the Contractor believes are exempt from disclosure under the FOIA must be specifically identified as such. Convincing explanation and rationale sufficient to justify each exemption consistent with the FOIA must accompany the request. The rationale and explanation must be stated in terms of the prospective harm to the competitive position of the Contractor that would result if the identified material were to be released and the reasons why the materials are legally exempt from release pursuant to the FOIA. To the extent that any other provision or part of the Contract, especially including the Bid, the Records and the specifications, conflicts or is in any way inconsistent with this section, this section controls and shall apply and the conflicting provision or part shall not be given effect. If the Contractor indicates that certain documentation is submitted in confidence, by specifically and clearly marking said documentation as CONFIDENTIAL, DAS will endeavor to keep said information confidential to the extent permitted by law. DAS, however, has no obligation to initiate, prosecute or defend any legal proceeding or to seek a protective order or other similar relief to prevent disclosure of any information that is sought pursuant to a FOIA request. The Contractor shall have the burden of establishing the availability of any FOIA exemption in any proceeding where it is an issue. In no event shall DAS or the State have any liability for the disclosure of any documents or information in its possession which the State or DAS believes are required to be disclosed pursuant to the FOIA or other requirements of law.

### 50. References to Statutes, Public Acts, Regulations, Codes and Executive Orders.

All references in this Contract to any statute, public act, regulation, code or executive order shall mean such statute, public act, regulation, code or executive order, respectively, as it has been amended, replaced or superseded at any time. Notwithstanding any language in



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this Contract that relates to such statute, public act, regulation, code or executive order, and notwithstanding a lack of a formal amendment to this Contract, this Contract shall always be read and interpreted as if it contained the most current and applicable wording and requirements of such statute, public act, regulation, code or executive order as if their most current language had been used in and requirements incorporated into this Contract at the time of its execution.

### 51. Cross-Default.

- (a) If the Contractor or Contractor Parties breach, default or in any way fail to Perform satisfactorily under the Contract, then DAS may, in its sole discretion, without more and without any action whatsoever required of the State, treat any such event as a breach, default or failure to perform under any or all other agreements or arrangements (“Other Agreements”) that the Contractor or Contractor Parties have with DAS. Accordingly, DAS may then exercise at its sole option any and all of its rights or remedies provided for in the Contract or Other Agreements, either selectively or collectively and without such election being deemed to prejudice any rights or remedies of DAS, as if the Contractor or Contractor Parties had suffered a breach, default or failure to perform under the Other Agreements.
- (b) If the Contractor or Contractor Parties breach, default or in any way fail to Perform satisfactorily under any or all Other Agreements with DAS or the State, then DAS may, in its sole discretion, without more and without any action whatsoever required of the State, treat any such event as a breach, default or failure to Perform under the Contract. Accordingly, the State may then exercise at its sole option any and all of its rights or remedies provided for in the Other Agreements or the Contract, either selectively or collectively and without such election being deemed to prejudice any rights or remedies of DAS or the State, as if the Contractor or Contractor Parties had suffered a breach, default or failure to Perform under the Contract.

52. Disclosure of Records. This Contract may be subject to the provisions of section 1-218 of the Connecticut General Statutes. In accordance with this statute, each contract in excess of two million five hundred thousand dollars between a public agency and a person for the performance of a governmental function shall (a) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (b) indicate that such records and files are subject to FOIA and may be disclosed by the public agency pursuant to FOIA. No request to inspect or copy such records or files shall be valid unless the request is made to the public agency in accordance with FOIA. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of sections 1-205 and 1-206 of the Connecticut General Statutes.

53. Summary of State Ethics Laws. Pursuant to the requirements of section 1-101qq of the Connecticut General Statutes, the summary of State ethics laws developed by the State Ethics Commission pursuant to section 1-81b of the Connecticut General Statutes is incorporated by reference into and made a part of the Contract as if the summary had been fully set forth in the Contract.

54. Sovereign Immunity. The parties acknowledge and agree that nothing in the Invitation to Bid or the Contract shall be construed as a modification, compromise or waiver by the State of any rights or defenses of any immunities provided by Federal law or the laws of the State of Connecticut to the State or any of its officers and employees, which they may have had,

**Contract # 17PSX0210**

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now have or will have with respect to all matters arising out of the Contract. To the extent that this section conflicts with any other section, this section shall govern.

55. Time of the Essence. Time is of the essence with respect to all provisions of this Contract that specify a time for performance; provided, however, that this provision shall not be construed to limit or deprive a party of the benefits of any grace or use period allowed in this Contract.

56. Certification as Small Contractor or Minority Business Enterprise.

This paragraph was intentionally left blank.

57. Campaign Contribution Restriction. For all State contracts as defined in Conn. Gen. Stat. § 9-612(g)(1) having a value in a calendar year of \$50,000 or more or a combination or series of such agreements or contracts having a value of \$100,000 or more, the authorized signatory to this Contract expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice, as set forth in "Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations," attached as Exhibit C.

58. Health Insurance Portability and Accountability Act of 1996.

This paragraph was intentionally left blank.

59. Protection of Confidential Information.

(a) Contractor and Contractor Parties, at their own expense, have a duty to and shall protect from a Confidential Information Breach any and all Confidential Information which they come to possess or control, wherever and however stored or maintained, in a commercially reasonable manner in accordance with current industry standards.

(b) Each Contractor or Contractor Party shall develop, implement and maintain a comprehensive data - security program for the protection of Confidential Information. The safeguards contained in such program shall be consistent with and comply with the safeguards for protection of Confidential Information, and information of a similar character, as set forth in all applicable federal and state law and written policy of DAS or State concerning the confidentiality of Confidential Information. Such data-security program shall include, but not be limited to, the following:

(1) A security policy for employees related to the storage, access and transportation of data containing Confidential Information;

(2) Reasonable restrictions on access to records containing Confidential Information, including access to any locked storage where such records are kept;

(3) A process for reviewing policies and security measures at least annually;

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- (4) Creating secure access controls to Confidential Information, including but not limited to passwords; and
  - (5) Encrypting of Confidential Information that is stored on laptops, portable devices or being transmitted electronically.
- (c) The Contractor and Contractor Parties shall notify DAS, the Client Agency and the Connecticut Office of the Attorney General as soon as practical, but no later than twenty-four (24) hours, after they become aware of or suspect that any Confidential Information which Contractor or Contractor Parties have come to possess or control has been subject to a Confidential Information Breach. If a Confidential Information Breach has occurred, the Contractor shall, within three (3) business days after the notification, present a credit monitoring and protection plan to the Commissioner of Administrative Services, the Client Agency and the Connecticut Office of the Attorney General, for review and approval. Such credit monitoring or protection plan shall be made available by the Contractor at its own cost and expense to all individuals affected by the Confidential Information Breach. Such credit monitoring or protection plan shall include, but is not limited to reimbursement for the cost of placing and lifting one (1) security freeze per credit file pursuant to Connecticut General Statutes § 36a-701a. Such credit monitoring or protection plans shall be approved by the State in accordance with this Section and shall cover a length of time commensurate with the circumstances of the Confidential Information Breach. The Contractors' costs and expenses for the credit monitoring and protection plan shall not be recoverable from DAS, the Client Agency, any State of Connecticut entity or any affected individuals.
- (d) The Contractor shall incorporate the requirements of this Section in all subcontracts requiring each Contractor Party to safeguard Confidential Information in the same manner as provided for in this Section.
- (e) Nothing in this Section shall supersede in any manner Contractor's or Contractor Party's obligations pursuant to HIPAA or the provisions of this Contract concerning the obligations of the Contractor as a Business Associate of Covered Entity.

**60. Antitrust.**

Contractor hereby irrevocably assigns to the State of Connecticut all rights, title and interest in and to all Claims associated with this Contract that Contractor now has or may or will have and that arise under the antitrust laws of the United States, 15 USC Section 1, *et seq.* and the antitrust laws of the State of Connecticut, Connecticut General Statute § 35-24, *et seq.*, including but not limited to any and all Claims for overcharges. This assignment shall become valid and effective immediately upon the accrual of a Claim without any further action or acknowledgment by the parties.

**61. Audit Requirements for Recipients of State Financial Assistance.**

This paragraph was intentionally left blank.

## EXHIBIT A

### DESCRIPTION OF GOODS & SERVICES AND ADDITIONAL TERMS & CONDITIONS

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#### **1. DESCRIPTION OF GOODS AND SERVICES:**

- (a) The Contractor will deliver miscellaneous air monitoring equipment (portable and non-portable) replacement parts, accessories, supplies, support equipment to verify, certify and calibrate primary air monitoring equipment and various environmental related equipment and instrumentation, field calibration systems, ambient particulate monitors, environmental analyzers for temperature, humidity, barometric pressure and other environmental safety conditions to Client Agency upon request.
- (b) Contractor will perform general repair services, calibration, certification and maintenance of instrumentation as described in Exhibit B – Price Schedule
- (c) Contractor shall remain a manufacturer or authorized dealer of the instrumentation during the term of the Contract and shall provide proof of such status at any time upon Client Agency request.
- (d) Contractor shall furnish Client Agency with copies of price lists or catalogs as requested at no additional cost to Client Agency preferably in automated format.
- (e) Contractor shall apply all applicable American National Standards Institute (ANSI) standards for calibration and testing of related air monitoring field and laboratory equipment.
- (f) Contractor will ensure that all primary monitoring instrumentation and related air monitoring equipment holds current United States Environmental Protection Agency (USEPA) designation and or recommendation. Support instrumentation and equipment will meet (USEPA) guidelines for operation.
- (g) Contractor shall provide a Material Data Sheet (“SDS”) upon request by Client Agency for any chemical, toxic or hazardous compounds.
- (h) All Contractor prices are free on board (FOB) Destination, Freight Prepaid and include installation and setup of the instrumentation at no additional charge to client Agency.
- (i) Contractor will guarantee the extended warranties of up to three years past the initial warranty period as described in Exhibit B – Price Schedule.
- (j) When applicable Contractor will perform individual -installation of software and or firmware upgrades during the operation life expectancy to enhance operations, correct defects or in the course of repairs/calibrations if needed. Contractor and Client Agency will agree on a schedule to perform these services.
- (k) There will be no minimum ordering requirement throughout the term of the Contract.
- (l) All consumable shipped must be of latest dating to insure longest possible shelf life

## EXHIBIT A

### DESCRIPTION OF GOODS & SERVICES AND ADDITIONAL TERMS & CONDITIONS

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- (m) All packages must be labeled as to the contents and products;
- (n) Contractor must submit (2) complete sets of instruction manuals with each product delivery. If manuals are only available via internet, Contractor must inform Client Agency of the website to access the manuals.
- (o) Contractor will offer training on correct product use and assembly of any instrumentation purchased by Client Agency at no cost to the Client Agency within an acceptable timeframe for Client agency. Training will be conducted upon Client Agency request at a site to be determined by the Client Agency.
- (p) This Contract will allow the Client Agency to obtain additional instrumentation not specifically listed in the Contract only from the Contractor at the discount off list percentage pricing as noted on the Exhibit – Price Schedule.
- (q) Contractor will not have a minimum ordering requirement throughout the term of the Contract.
- (r) Any applicable hazardous handling or HAZMAT charges are the sole responsibility of the Contractor.

#### **2. ADDITIONAL TERMS AND CONDITIONS:**

##### **(a) Contract Separately/Additional Savings Opportunities**

DAS reserves the right to either seek additional discounts from the Contractor or to contract separately for a single purchase, if in the judgment of DAS, the quantity required is sufficiently large, to enable the State to realize a cost savings, over and above the prices set forth in Exhibit B, whether or not such a savings actually occurs.

##### **(b) P-Card (Purchasing MasterCard Credit Card)**

Notwithstanding the provisions of Section 4(b)(2) of the Contract, purchases may be made using the State of Connecticut Purchasing Card (MasterCard) in accordance with Memorandum No. 2011-11 issued by the Office of the State Comptroller.

Contractor shall be equipped to receive orders issued by the Client Agency using the MasterCard. The Contractor shall be responsible for the credit card user-handling fee associated with MasterCard purchases. The Contractor shall charge to the MasterCard only upon acceptance of Goods delivered to the Client Agency or the rendering of Services.

The Contractor shall capture and provide to its merchant bank, Level 3 reporting at the line item level for all orders placed by MasterCard.

**EXHIBIT A**

**DESCRIPTION OF GOODS & SERVICES AND ADDITIONAL TERMS & CONDITIONS**

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Questions regarding the state of Connecticut MasterCard Program may be directed to Ms. Kerry DiMatteo, Procurement Card Program Administrator at 860-713-5072.

**(c) Subcontractors**

DAS must approve any and all subcontractors utilized by the Contractor in writing prior to any such subcontractor commencing any work. Contractor acknowledges that any work provided under the Contract to any state entity is work conducted on behalf of the State and that the Commissioner of DAS or his/her designee may communicate directly with any subcontractor as the State deems to be necessary or appropriate. Contractor shall be responsible for all payment or fees charged by the subcontractor(s). A performance evaluation of any subcontractor shall be provided promptly by the Contractor to DAS upon request.

Contractor must provide the majority of services described in the specifications.

**(d) Security and/or Property Entrance Policies and Procedures**

Contractor shall adhere to established security or property entrance policies and procedures or both for each requesting Client Agency. It is the responsibility of each Contractor to understand and adhere to those policies and procedures prior to any attempt to enter any Client Agency premises for the purpose of carrying out the scope of work described in this Contract.

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract # 17PSX0210

Delivery: 8-14 weeks after drawing approval

Terms: 45 days

Contractor Name: EKTO MFG, Corp

ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES
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1	<p><b>EKTO Manufacturing Corporation:</b> Std Mobile Equipment Shelters, Transporters and Accessories</p> <p>Shipment: 70 Days ARO see attached price list Any Additional Shipping Charges: see attached price list</p> <p><u>General Repair Service</u> \$80.00/per hr on-site \$55.00/per hr off-site See attached description of services</p>
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Discount from price list: see attached

Price List / Catalog Number: CT Net Price List 2018  
Dated: 12/6/2017

Complete Product Line Offered: Yes

Standard Manufacturer Warranty information  
(please see attached page for  
Standard Warranty information)

Extended Warranty for a period of 3 years past  
initial warranty: Yes  
(please see attached page for Extend Warranty  
information)

Technical Support #207-324-4427  
7:00 a.m. to 5:00 p.m. (5 days a week - 365 days  
per year)



**EKTO MANUFACTURING CORPORATION, SANFORD, ME 04073 USA**

SANFORD INDUSTRIAL ESTATES, 83 EAGLE DRIVE, P.O.BOX 449,  
TEL: 207 – 324 – 4427 FAX: 207 – 324 – 4667 E-MAIL: info@ekto.com  
WEB SITE: www.ekto.com

**STATE OF CONNECTICUT – CONTRACT # 17PSX0210**

**NET PRICE LIST 2018 FOR STD. MOBILE EQUIPMENT  
SHELTERS, TRANSPORTERS & ACCESSORIES**

\*\*\*\*\*

MODEL	SHELTER SIZE H x W x LG	BARE SHELTER	PREWIRED & TEMP. CONTROLLED
844	8' x 4' x 4'	\$ 7,785.00	\$ 13,615.00
866	8' x 6' x 6'	\$ 10,180.00	\$ 15,175.00
886	8' x 8' x 6'	\$ 11,705.00	\$ 17,550.00
888	8' x 8' x 8'	\$ 14,135.00	\$ 19,275.00
8810	8' x 8' x 10'	\$ 16,495.00	\$ 21,260.00
8812	8' x 8' x 12'	\$ 17,885.00	\$ 24,585.00
8814	8' x 8' x 14'	\$ 20,990.00	\$ 29,815.00
8816	8' x 8' x 16'	\$ 24,070.00	\$ 34,360.00
8818	8' x 8' x 18'	\$ 26,970.00	\$ 38,765.00
8820	8' x 8' x 20'	\$ 29,960.00	\$ 43,210.00
8822	8' x 8' x 22'	\$ 32,525.00	\$ 45,630.00
8824	8' x 8' x 24'	\$ 35,010.00	\$ 48,025.00
8826	8' x 8' x 26'	\$ 37,205.00	\$ 50,635.00
8828	8' x 8' x 28'	\$ 39,235.00	\$ 53,100.00
8830	8' x 8' x 30'	\$ 41,555.00	\$ 55,575.00

**Options:**

- 9' wide units + 10 %	- 10' wide units + 15 %	(add to <b>bare</b> shelter cost only)
- 11' wide units + 20 %	- 12' wide units + 22 %	(add to <b>bare</b> shelter cost only)
- 9' tall units + 10 %	- 10' tall units + 15 %	(add to <b>bare</b> shelter cost only)

- Prices for larger units upon request



**BARE SHELTER CONSTRUCTION INCLUDES:**

- Exterior finish: Light tan, baked-on enamel aluminum exterior skins on walls  
Clear aluminum skins on floor & roof  
Plain aluminum corner angles & corner caps
- Interior finish: Industrial vinyl floor tiles  
Light tan, baked-on enamel aluminum walls & ceiling skins
- Shelter shell insulation R11 (2")
- One (1) entrance door 36"W x 80" or 84"H, fully gasketed with cam type lock & hydraulic door closer
- Four lower lift and tie down rings
- Two (2) aluminum floor skids with four (4) tie down shoes
- All exterior and interior seams caulked
- See our specification # 1700-2 for more details

**Options:**

- Shelter shell insulation R15 (3") in lieu of R11 (2") + 8 % of **bare** shelter cost
- Shelter shell insulation R21 (4") in lieu of R11 (2") + 18 % of **bare** shelter cost
- Exterior white fiberglass skins in lieu of lt. tan aluminum & aluminum or galvanized corner trim with stainless steel rivets + 20 % of **bare** shelter cost
- Exterior white fiberglass skins, stainless steel trim, rivets and skids + 38 % of **bare** shelter cost
- Aluminum tread plate floor in lieu of vinyl or tiles + 6 % of **bare** shelter cost
- Non-skid floor tiles in lieu of std. industrial tiles + 4 % of **bare** shelter cost
- Seamless vinyl floor covering in lieu of floor tiles + 3 % of **bare** shelter cost
- Special exterior color (Kynar) in lieu of light tan alum (walls only) + 7 % of **bare** shelter cost
- Acoustical ceiling tiles in lieu of lt. tan alum. skins + 4 % of **bare** shelter cost
- Sloped roof + \$ 395.00

**PRE-WIRED AND TEMP. CONTR. SHELTER CONFIGURATION INCLUDES:**

- Same shelter construction as bare shelters
- 100A, 240/120V, 1Ø, 60Hz, 20 circuit capacity power distribution panel with circuit breakers
- 1 1/2" LB power entrance (bottom or top feed)
- Interior power outlets (15 or 20A, 120V) as outlined in drawing # B-STD-94;  
Shelters over 16' long have similar spacing
- Interior ceiling lights and switch
- All wiring inside surface mounted Wiremold runs, wired per NEC code.
- Interior shelter temperature controlled by single automatic thermostat and a wall mounted air conditioner & baseboard heat (1500 to 4500W, 240/208V)
- Prices include the following through the wall (residential) type air conditioner:

Model 888 through 8812 : 12,000 or 18,000 BTU

Model 8814 through 8816 : 18,000 BTU

Model 8818 through 8820 : 24,000 BTU

Model 8822 through 8830 : 35,000 BTU

- 4x4 Wireway around ceiling with EMT conduit drops in lieu of Wiremold + 3 % of **prewired** shelter cost



- Safety / anti-climb gate over roof access ladder	\$ 246.00
- Roof access ladder only (no guardrail), bolt-on, removable	\$ 364.00
- Roof aluminum safety grating, 2"H	per ft <sup>2</sup> \$ 68.00
- Additional door (36W x 80H), std. construction & hardware	\$ 1,335.00
- Dual door; one side with std. hardware, one side cargo leaf w/ barrel bolts, max. 90"W	\$ 3,160.00
- Heavy duty crashbar locking mechanism, stainless steel, in lieu of cam-type	\$ 1,210.00
- Different door size; max. 44"W x 90"H with Qty: 4 strap hinges in lieu of Qty: 3	\$ 162.00
- Piano hinge, full height, st. steel in lieu of Qty: 3 strap hinges	\$ 470.00
- Window in door (safety glass), 16" sq.	\$ 265.00
- Window, in walls, tempered glass (cannot be opened) -	\$ 135.00 p/ft <sup>2</sup>
- Additional floor skid, 2"W x 3"H (extra floor support), includes Qty: 2 tie-down shoes	\$ 15.00 p/ft.
- Top lift rings in addition to bottom rings	set of 4 \$ 920.00
- Adjustable leveling tie down pads on each shelter bottom corner	
8" x 8" pads, total max. adjustment: 2 1/2"	set of 4 \$ 1,254.00
- Large jack corner pockets only (to use w/ EKTO trailer); incl. holes in skids & reflectors	\$ 320.00
- Metal entrance step, removable (shelter floor 12" off ground) - one step	\$ 310.00
- Metal entrance step, removable (shelter floor 16" off ground) - two steps	\$ 660.00
- Metal entrance step, remov. (shelter deployed on trailer, 30" off ground) - three steps	\$ 990.00
- Step swivel mechanism to swing up over door & secure storage while in transport	\$ 235.00
- Exterior gas bottle mount only with nylon strap, removable	\$ 134.00
- Exterior gas bottle mount with nylon strap & 12" or 16"D alum. gas bottle hood	\$ 274.00
- Exterior gas bottle compartment enclosure, 68"H:	
(attached to shelter)	2 bottle mount \$ 1,545.00
	3 bottle mount \$ 1,780.00
	4 bottle mount \$ 1,925.00
	6 bottle mount \$ 2,880.00
	10 bottle mount \$ 3,805.00
<u>Options:</u>	
- Free-standing bottle compartment w/ alum. back plate	+ 22 %
- Insulated construction in lieu of clear alum. sheets	+ 50 %
- Heated with small heat strip & thermostat, 120V	\$ 362.00
- Air intake or exhaust fan, up to 12", switch or thermostat & alum. hood and bug screen	\$ 465.00
- Air intake or exhaust louver, up to 12" with alum. hood & bug screen	\$ 320.00
- Alum. hood with 1" replacement filter (throw-away) in lieu of bug screen	\$ 123.00
- 10 Meter aluminum tower mounted to shelter:	
Commercial crank-up type, 70 MPH rating; max. pay load 50 lbs.	\$ 5,175.00
Heavy duty crank-up type, 70 MPH rating; max. pay load 125 lbs.	\$ 6,730.00
Heavy duty crank up type, 70 MPH, rating with roof track (used with trailers / trucks)	\$ 12,155.00
- Anti-climb plates over tower sides	\$ 338.00
- Tower mounting kit only; Qty: 2 V-clamps, stainless steel, Unistrut channels & base plate	\$ 314.00
- Signal cable entry beside tower, 2"LB	\$ 95.00
- Openings / cut-outs (up to 18" x 18")	\$ 190.00
- Opening with removable cover plate, 1/8" alum. (up to 18" x 18")	\$ 297.00
- Feed through bulkhead through wall (up to 18" x 18"): Dish-type, inside or outside	\$ 230.00
Removable plate type, 1/8" alum.	\$ 358.00



- Voltage regulator / power conditioner:
  - 2 KVA, 120V, 1Ø; installed \$ 3,315.00
  - 3 KVA, 120V, 1Ø; installed \$ 4,035.00
  - 5 KVA, 120V, 1Ø; installed \$ 7,065.00
- UPS with by-pass switch: 3 kVA to 11 kVA, 240V or 120V, capacity to suit upon request
- UPS (critical) power distribution panel with associated breakers; 120V, 1Ø, 12 circ. cap. \$ 565.00
- Power panels (GE) other than 240/120V, 1Ø, 20 circuits & breakers add to the shelter cost:
  - 1Ø, 125A - 24 circuits + \$ 493.00
  - 1Ø, 150A - 24 circuits + \$ 582.00
  - 1Ø, 200A - 40 circuits + \$ 851.00
  - 3Ø, 100A - 18 circuits + \$ 364.00
  - 3Ø, 125A - 30 circuits + \$ 1,187.00
  - 3Ø, 150A - 30 circuits + \$ 1,208.00
  - 3Ø, 200A - 24 circuits + \$ 1,646.00
  - 3Ø, 200A - 30 circuits + \$ 1,725.00
  - 3Ø, 200A - 42 circuits + \$ 2,038.00

Other panels (brands, sizes) available upon request

- Transformer (NEMA 3R) exterior mounting with platform support and drip shield; 480V primary, 208/120V secondary:
- Exterior manual disconnect switch (NEMA 3R) 600/480V, 2 or 3 pole with fuses

PHASE	TRANSFORMER	PRICE	DISC. RATING	PRICE
1 Ø	15.0 KVA	\$ 2,070.00	40A	\$ 605.00
1 Ø	25.0 KVA	\$ 2,705.00	50A	\$ 640.00
1 Ø	30.0 KVA	\$ 3,205.00	70A	\$ 995.00
1 Ø	50.0 KVA	\$ 3,870.00	125A	\$ 1,120.00
3 Ø	15.0 KVA	\$ 2,040.00	30A	\$ 605.00
3 Ø	30.0 KVA	\$ 2,570.00	60A	\$ 640.00
3 Ø	45.0 KVA	\$ 3,070.00	80A	\$ 995.00
3 Ø	75.0 KVA	\$ 4,320.00	100A	\$ 1,025.00

**SAFETY ITEMS:**

- Fire extinguisher, ABC, wall mounted
  - 5 lbs. \$ 157.00
  - 10 lbs. \$ 258.00
- Smoke & heat detector with alarm & form "C" contacts for remote hook-up \$ 405.00
- Oxygen detector, 12-24V & AC power adapter, 120V (ISC Priority One) \$ 2,280.00
- Carbon monoxide detector, 12-24V & AC power adapter, 120V (ISC Priority One) \$ 2,280.00
- Low power audio / visual alarm (strobe) for gas detectors, mounted on shelter outside \$ 678.00

NOTE: Other gas detectors / systems are available. Pricing upon request.

- Intrusion alarm w/ battery back-up, key pad, horn & strobe light \$ 1,950.00
- 100A, 240/208V shunt main breaker and thermostat (attic – high temp) \$ 616.00
- Lightning surge arrestor (Delta 300 Series or equal):
  - 250V, 3Ø \$ 218.00
  - 250V, 1Ø \$ 157.00

- Emergency escape hatch kick-out panel (36" x 36") \$ 868.00
- Emergency light with or without EXIT sign, dual head, with battery back-up \$ 358.00
- EXIT sign only, 120V with battery back-up, 120V \$ 220.00

Other accessories and features are available and priced upon request.

**Certification:** We can supply structural drawings and calculations for the basic shelter structure, certified and stamped by a P.E. licensed in the State of Connecticut. If “stickers” are required and have to be placed on the shelter by a third party inspection agency or the “pre-fabricated building design” has to be approved by the state of CT, we may not be able to supply it.

Cost for P.E. calcs & stamped construction drawing only	Up to <i>Model 8824</i>	\$ 2,580.00
	<i>Model 8826</i> and above	\$ 2,955.00

**Warranty:** EKTO Mfg. Corp. warranties the shelter and all the components we supplied including the air conditioner unit (supported by the A/C manufacturer) for 1 year (12 month) parts and labor. This warranty normally goes into effect the day the shelter ships from our factory.

**Extended Warranty:** An extended **3 year warranty** past the initial warranty of 1 year (12 months) – **4 years total** - from *day of shipment* is available for a fee of 10 % of total P.O. amount (excluding shipping costs & PE calcs).

**General Repair Service:** \$ 80.00 p/hr on-site

*Discount:* All prices are NET **good through 2018**. Additional quantity discounts apply as follows:

Qty: 1 – 4 units per order	NONE
Qty: 5 – 9 units per order	3 %
Qty: 10 + units per order	5 %

*Prices:* F.O.B. Sanford, Maine – **F.O.B. Destination** see *Shipping* below for details.

*Delivery:* Approx. 8 – 14 weeks **after final drawing approval** depending on work load at time of order.

*Shipping:* Depending on the Model ordered and destination, estimates are as follows, full load – step-deck:

Hartford, CT	Legal (102" max.)	\$ 1,000.00
	Wide (123" max.)	\$ 1,600.00
	Extra Wide (143" max.)	\$ 1,750.00
Stanford, CT	Legal (102" max.)	\$ 1,350.00
	Wide (123" max.)	\$ 2,100.00
	Extra Wide (143" max.)	\$ 2,300.00

**Notes:** Truck loads that are wider than 11'-11" including anything “sticking out” on the side walls will require 1 or 2 escort vehicles that will substantially increase shipping. Pricing T.B.D. We would be happy to quote actual costs based on final destination at time of order.

**Unloading** at site by forklift with extended forks or crane and **set-up** including electrical hook-up **is not** included.

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract #17PSX0210

Delivery: Please see below

Terms: Net 45 Days

Contractor Name: Environics Inc


ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES
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**MANUFACTURER**

See attached price list for Environics Inc products

Price List / Catalog Number - All items in price list  
Dated: 1/1/2017

Price List / Catalog Pages On Which:  
Bidding: All

Complete Product Line Offered:  
Yes

Technical Support #860-872-1111  
[www.environics.com](http://www.environics.com)  
7:00 a.m. to 5:00 p.m. (7 days a week - 365 days per year)

Shipment 20-40 Days A.R.O.

General Repair Service  
\$175.00/per hr on-site

Effective: 1 January 2017

## ENVIRONICS® BRAND SERIES 6100 COMPUTERIZED MULTI-GAS CALIBRATOR

### Base Price-Standard Unit:

The standard unit will dilute span gas, generate ozone and perform rapid gas phase titration of NO with O<sub>3</sub> to produce NO<sub>2</sub> and includes at no extra cost: \$9,995.00

- (1) dilution mass flow controller and
- (1) span gas mass flow controller
- Portable configuration
- All teflon tubing
- (1) dilution gas Inlet port
- (4) span gas inlet ports
- Ozone Generation Module, reaction chamber and electronics for ozone calibration and gas phase titration.
- RS-232 Serial Data Interface (Terminal/Printer Computer/Modem)
- I/O control (8 inputs / 8 outputs) programmable through software

### Options Available:

- Additional span gas mass flow controller: 2,980.00  
(Mass flow controller, solenoids, control electronics & tubing)
- USB to serial adapter 40.00
- Extra Gas Inlet Port (maximum of (5), total) 350.00
- Rack Mount Case with Slides 305.00
- Hard Transport Case (only available with portable configuration) 750.00
- Permeation Oven 3,575.00
- Canvas Padded Carrying Case for Portable Chassis 300.00
- Inline Teflon Filter Holder with one membrane (Part # FB001) 213.00
- Replacement 5-6 micron membrane (Part # FB002) 5.00

*Computerized Gas Mixing / Dilution / Calibration Systems*



## ENVIRONICS® BRAND SERIES 6103 OZONE TRANSFER STANDARD AND MULTI-GAS CALIBRATOR

### Base Price-Standard Unit:

The standard unit will dilute span gas, generate ozone and perform rapid gas phase titration of NO with O<sub>3</sub> to produce NO<sub>2</sub> and includes at no extra cost: \$11,890.00

- (1) dilution mass flow controller and
- (1) span gas mass flow controller
- Portable configuration
- All teflon tubing
- (1) dilution gas inlet port
- (4) span gas inlet ports
- Ozone Generation Module, reaction chamber and electronics for ozone calibration and gas phase titration.
- RS-232 Serial Data Interface (Terminal/Printer Computer/Modem)
- I/O control (8 inputs / 8 outputs) programmable through software
- Photometer

### Options Available:

- Additional span gas mass flow controller: (Requires 23" Chassis) 3,575.00  
(Mass flow controller, solenoids, control electronics & tubing)
- USB to serial adapter 40.00
- Rack Mount Case with Slides 305.00
- Hard Transport Case (only available with (2) MFC portable configuration) 750.00
- Canvas Padded Carrying Case for 18" Portable Chassis 300.00
- Permeation oven (calibrated at one temperature) (Requires 23" Chassis) 3,575.00
  - Additional temperature settings, each 250.00
- Inline Teflon Filter Holder with one membrane (Part # FB001) 213.00
- Replacement 5-6 micron membrane (Part # FB002) 5.00

Effective: 1 January 2017

## ENVIRONICS® BRAND SERIES 7000 ZERO AIR GENERATOR

### Base Price-Standard Unit:

The standard unit is capable of continuous delivery of up to 20 standard liters per minute (SLPM), 30 pounds per square inch (PSI) of dry, contaminant-free air and includes at no extra cost: \$5,425.00

- State-of-the-art PSA molecular sieve
- Oil-less piston pump
- Scrubbers to remove SO<sub>2</sub>, NO, NO<sub>2</sub>, O<sub>3</sub> and H<sub>2</sub>S
- Automatically turns on and off based on demand
- Set output pressure through a regulator on front panel
- Dual stage output pressure regulation
- Visual dew point indicator
- Output pressure gauge on front panel

### Options Available:

- THC and CO catalytic converter with adjustable 300°C to 550 °C (110V) 300° C to 482 °C (240V) temperature controller & front panel display \$1,350.00
- Rack mount \$ 305.00

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract No: 17PSX0210

Delivery: 30 Days ARO

Terms: Net 45 Days

Contractor Name: MAGEE Scientific

ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES			
1	<p><b>MANUFACTURER:</b> <b>MAGEE Scientific: Aethalometer Instruments and Service</b></p> <p><i>Shipping method: FedEx/UPS</i> <i>Shipping: Prepaid and Added: or Freight collect on receipts account</i> <i>Delivery: Shipment date will be given at the time of the request for the product is received and confirmed</i> <i>Warranty: All instruments are unconditionally warrantied for a period of one full year from the date of receipt.</i></p>			<p>Price List / Catalog Number: see attached list Dated: 11/29/2017</p> <p>Complete Product Line Offered: Yes</p> <p>Standard Manufacturer Warranty (1) year</p> <p>Technical Support #510-845-2801 7:00 a.m. to 5:00 p.m. (7 days a week - 365 days per year)</p> <p>Annual Maintenance: see attached description of services.</p>

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract No: 17PSX0210

Delivery: 30 Days ARO

Terms: Net 45 Days

Contractor Name: MAGEE Scientific

ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES			
AE33	<p><b>Aethalometer, DualSport, 7-wavelength analysis @1Hz (Instrument package includes: Model AE33, one roll filter tape, one cartridge filter, static dissipative sample tubing (3 m), insect and water trap, flow and leak-test calibration pad, operating and service manual and quick start guide).</b></p> <p>Accessories:</p>	\$25,000 each		
4110	PM2 5 infet, sharp-cut cyclone SCC-1 829 (2.5 um @ 5 LPM)	\$1,100 each		
4114	PM1 inlet, sharp-cut cyclone SCC-1. 197 (1 um @ 5 LPM, 2.5 um @ 2 LPM)	\$1,100 each		
4121	Mini PM Inlet configurable for PM1, PM2.5, PM4, PM10, TSP	\$2,000 each		
5510	Ambient meteorological sensor (P, T, RH) with 10-m cable	\$1,625 each		
5610	Sample Stream dryer (specify pump voltage)	\$6,250 each		
	5650 Pump for Sample stream Dryer, 110 VAC/60 Hz included			
	5652 Pump for Sample Stream Dryer, 230 VAC/50Hz included			
5710				
5710	CO2 sensor integrated with AE33 airflow & data acquisition, Vaisala GMP343	\$3,900 each		
7662	Neutral Density Optical Filter validation Kit	\$1,600 each		
7900	Flow calibrator with cable for automatic interface to AE33, TSI Model 4140	\$1,350 each		
7950	Flow calibrator, BGI Tetracal	\$3,160 each		
9610	Shockproof & waterproof transit case for field use, Pelician 1630	\$500 each		
	<u>Consumable Supplies:</u>			
8060	Filter Tape Roll, 10 m. typ. 4-6/year in continuous ambient use	\$200 each		
8072	Catridge filter (internal): 1/year	\$25 each		

**Shipping method: FedEx/UPS**  
**Shipping: Prepaid and Added: or Freight collect on recipients account**  
**Delivery: Shipment date will be given at the time of the request for the product is received and confirmed**  
**Warranty: All instruments are unconditionally warrantied for a period of one full year from the date of receipt.**

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract No: 17PSX0210

Delivery: 30 Days ARO

Terms: Net 45 Days

Contractor Name: MAGEE Scientific

ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES			
AE33 RPMS	<p><b>Annual Maintenance service to include: Clean optics, calibrate flows, perform leakage tests, perform ND optical validation tests, perform stability tests, perform clean air tests, replace internaal cartridge filters, install new filter tape roll, run 48 hours</b></p> <p>Replacement Parts, Components, Sub-Assemblies</p>	\$1,000 each		
4086	Flow Sensor	\$250.00 each		
	Recommended Accessories offered at time of services:			
7662	Neutral Density Optical Filter validation kit	\$1,680 each		
7900	BGI Tetracal flow calibrator	\$3,160 each		
<p><b><i>Shipping method: FedEx/UPS</i></b>  <i>Shipping: Prepaid and Added: or Freight collect on receipts account</i>  <i>Delivery: Shipment date will be given at the time of the request for the product is received and confirmed</i>  <i>Warranty: All instruments are unconditionally warrantied for a period of one full year from the date of receipt.</i></p>				

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract #17PSX0210

Delivery: Please see below

Terms: Net 45 Days

Contractor Name: Wilbur Technical Services, LLC


ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES
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	<p><b>DISTRIBUTOR: Wilbur Technical Services, LLC</b></p> <p><b>Aeroqual</b></p> <p>See attached price list for Aeroqual</p> <p>Shipment 45 Days A.R.O.</p> <p><u>General Repair Service</u> \$155.00/per hr on-site \$155.00/per hr off-site</p>	<p>Authorized Distributor: Yes</p> <p>Price List / Catalog Number - All items in price list Dated: 2017</p> <p>Price List / Catalog Pages On Which: Bidding: All</p> <p>Complete Product Line Offered: Yes</p> <p>Wilbur Technical Support #860-508-7714 7:00 a.m. to 5:00 p.m. (7 days a week - 365 days per year)</p>
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## Dust & Particulate Monitors

Distributor Price List in US Dollars from 1 Jan 2018

Code	Product	Description	USD
<b>NEPHELOMETER-BASED PARTICLE MONITORS</b>			
Dust Sentry	Dust Sentry Base System	Dust Sentry Base System including: <ul style="list-style-type: none"> <li>• Range 0-2000 µg/m<sup>3</sup></li> <li>• Forward light scattering Nephelometer</li> <li>• TSP inlet and heated sampling tube</li> <li>• Brushless DC pump sampling module</li> <li>• Weatherproof lockable IP65 enclosure with integrated aluminium solar shields</li> <li>• 100-250V AC power supply and 12V DC input</li> <li>• Communications: Ethernet, WIFI</li> <li>• Embedded PC (Intel Atom, 1.6GHz, dual core, 2GB RAM, 32GB SSD hard drive)</li> <li>• Aeroqual Connect software interface (configuration, diagnostics, and data acquisition)</li> <li>• Aeroqual Support software (for remote diagnostics and instrument support)</li> <li>• Pole and wall mount brackets</li> <li>• Documentation (Hard Copy: User Guide, Calibration Certificate; Soft Copy on USB stick)</li> <li>• Manufacturer's Standard 12 month Warranty</li> <li>• Unlimited access to Aeroqual's Online Training System</li> </ul>	\$ 7,500.00
<b>OPTIONAL SHARP CUT CYCLONES (FOR USE WITH DUST SENTRY)</b>			
DS SC10	PM10 Cyclone	Sharp cut cyclone PM1 ( less than or equal to 1.0 microns)	\$ 450.00
DS SC25	PM2.5 Cyclone	Sharp cut cyclone PM2.5 (less than or equal to 2.5 microns)	\$ 720.00
DS SC1	PM1 Cyclone	Sharp cut cyclone PM10 (less than or equal to 10 microns)	\$ 1,995.00
<b>OPTICAL COUNTER-BASED PARTICLE MONITORS</b>			
Dust Profiler	Dust Profiler Base System	Dust Profiler Base System including: <ul style="list-style-type: none"> <li>• Counts Range: 0-100000 counts/L converted to PM1, PM2.5, PM10 <u>and</u> TSP in µg/m<sup>3</sup></li> <li>• 8-channel Optical Particle Counter (OPC)</li> <li>• Inlet and heated sampling tube</li> <li>• Brushless DC pump sampling module</li> <li>• Weatherproof lockable IP65 enclosure with integrated aluminium solar shields</li> <li>• 100-250V AC power supply and 12V DC input</li> <li>• Communications: Ethernet, WIFI</li> <li>• Embedded PC (Intel Atom, 1.6GHz, dual core, 2GB RAM, 32GB SSD hard drive)</li> <li>• Aeroqual Connect software interface (configuration, diagnostics, and data acquisition)</li> <li>• Aeroqual Support software (for remote diagnostics and instrument support)</li> <li>• Pole and wall mount brackets</li> <li>• Documentation (Hard Copy: User Guide, Calibration Certificate; Soft Copy on USB stick)</li> <li>• Manufacturer's Standard 12 month Warranty</li> <li>• Unlimited access to Aeroqual's Online Training System</li> </ul>	\$ 8,600.00

<b>FACTORY TESTED AND INTEGRATED ENVIRONMENTAL SENSORS</b>			
DS AUX01	Auxiliary Module	Interface between designated third party sensors and embedded PC	\$ 365.00
DS R47	47mm Sample Filter	47mm filter assembly for particle loading analysis (incl. 2 filter membranes)	\$ 270.00
DS R28	Novalynx Pyranometer	Novalynx silicon pyranometer for measuring solar radiation (incl. DS AUX)	\$ 2,080.00
DS R51	Cirrus Noise Sensor	Cirrus Class 1 outdoor noise sensor with automatic calibration (incl. DS AUX)	\$ 5,995.00
DS R52	Met One MSO	Met One MSO multi-sensor: wind speed, wind direction, barometric pressure, air temperature, relative humidity (incl. DS AUX)	\$ 2,650.00
DS R1	Gill WindSonic Sensor	Gill WindSonic ultrasonic wind speed & direction sensor (incl. AQM AUX)	\$ 2,300.00
DS R25	Vaisala Weather Transmitter	Vaisala multi-sensor with integrated heater, mounting kit and bird spike: wind speed, wind direction, precipitation, barometric pressure, air temp., relative humidity (incl. AQM AUX)	\$ 5,990.00
<b>FACTORY TESTED AND INTEGRATED COMMUNICATIONS</b>			
DS R38	Cellular IP Modem	Compact five-band GSM/GPRS/EDGE/UMTS/HSPA/3G IP gateway pre-configured for remote Connect/Cloud access (excl. SIM)	\$ 695.00
DS OUT	4-20mA and Relay Output	Output module for 4-20mA (4-channel) and relay (2-channel)	\$ 745.00
DS ALERTS	Email / SMS Alerts	Unlimited email alerts and up to 50 SMS/text alerts per month (fee per year)	\$ 150.00
DS EXPORT	Auto Data Export	Auto export data to email and FTP server (fee per year)	\$ 150.00
<b>CONSUMABLES, PARTS AND TOOLS</b>			
DS R7	Tripod	Rugged aluminium tripod height 1.8m extendable to 3m; 1-inch pole mount	\$ 600.00
DS R8	Flowmeter	Flowmeter (0.2-2.5L/min) single rotameter for checking PM flow rate	\$ 290.00
DS R10	Sampling Pump	Sampling pump for Dust Sentry or Dust Profiler	\$ 585.00
DS R20	Dust Monitor Service Kit	Service kit includes: carry case, flowmeter, leak gauge, zero filter and flow assembly, Tygon tube, flow adjusters, luer fittings, inlet O-rings	\$ 590.00
DS R23	Leak gauge	Vacuum gauge for leak test	\$ 110.00
DS R30	47mm Filters	Filter membranes 47mm PTFE 5um for 47mm Sample Filter (25 pcs)	\$ 210.00
DS R31	PM Filters	Filter set (2 pcs: 1 for inlet, 1 for purge) for Dust Sentry	\$ 70.00
DS R32	PP Filters	Filter set (2 pcs: 1 for inlet, 1 for purge) for Dust Profiler	\$ 70.00
DS R34	Purge Pump	Purge pump for Dust Sentry	\$ 45.00
DS R56	Zero Filter & Flow Assembly	Zero filter and flow assembly to carry out manual zero and flow check	\$ 95.00
AIC O-RING04	PM Inlet O-Ring	O-ring for PM base inlet (10 pack)	\$ 5.00
CS TUBE10	Tygon Tube	Tygon exhaust and PM and Profiler tubing (per metre)	\$ 15.00
<b>REPLACEMENT PARTICLE MONITOR MODULES</b>			
AIC PM80180	PM Optical Module	Replacement particle monitor optical module only for Dust Sentry	\$ 3,150.00
AIC PF9722-1	Profiler Optical Module	Replacement particle profiler optical module only for Dust Profiler	\$ 3,400.00
<b>AEROQUAL SOFTWARE PACKAGES</b>			
AQM SUPPORT	Support Software License	Support includes: table view; calibration; maintenance; diagnostics; map view; journal; and 1-month view historical data (for remote diagnostics and instrument support)	FREE
AQM BASIC	Basic Software License	Basic includes Support features plus: Basic charts; CSV data download; SMS/Email alerts; FTP/data export; Cloud API; and 12-month view historical data (annual license per instrument)	\$ 600.00
AQM PLUS	Plus Software License	Plus includes Basic features plus: Advanced charts; network view; wind roses; pollution roses; and unlimited historical data view (annual license per instrument)	\$ 1,000.00
<b>SERVICES*</b>			
DS EXS_ACT	External Sensor Activation*	Activation of external sensor data in Aeroqual Connect and Cloud (per sensor per DM)	\$ 150.00
CAL R4	Factory Calibration*	Factory calibration for nephelometer in Dust Sentry (recommended every 2 years)	\$ 375.00
CAL R5	Factory Calibration*	Factory calibration for particle counter in Dust Profiler (recommended every 1 year)	\$ 375.00
TECH SUPP	Advanced Technical Support*	Advanced technical support (per hour)	\$ 120.00
TRAINING	On Site Training*	In person training on site by an expert Aeroqual technician (per day, excl. expenses)	\$ 800.00

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## AQM 65 Air Quality Station

Distributor Price List in US Dollars from 1 Nov 2016

Code	Product	Description	USD
<b>AQM 65 SYSTEM</b>			
AQM 65	AQM 65 System	AQM 65 System includes: <ul style="list-style-type: none"> <li>• Lockable IP65 enclosure with insulated aluminium construction</li> <li>• Gas Sampling System (brushless DC pump, sampling system)</li> <li>• Thermal Management System: Danfoss compressor, heater and system manager</li> <li>• Gas Inlet: Teflon, glass-coated stainless steel tubing, stainless steel fittings</li> <li>• Embedded PC (Intel Atom, 1.6GHz, dual core, 2GB RAM, 32GB SSD hard drive)</li> <li>• Communications: Ethernet, WIFI</li> <li>• Aeroqual Connect software interface (configuration, diagnostics, and data acquisition)</li> <li>• Aeroqual Support software (for remote diagnostics and instrument support)</li> <li>• Power Module (90-264 VAC, 47-63Hz)</li> <li>• External Temperature &amp; Humidity Sensor (-40 to 120° C; 0-100% RH)</li> <li>• Pole and wall mount brackets</li> <li>• Documentation (Hard Copy: User Guide, Log Book; Soft Copy on USB stick)</li> <li>• Manufacturer's Standard 12 month Warranty</li> <li>• Unlimited access to Aeroqual's Online Training System</li> </ul>	\$ 11,990.00
<b>AQM 65 GAS MODULES</b>			
AQM LZ	O3 Gas Module	Ozone (0-0.5 ppm O3) GSS gas module with integrated zero cycle	\$ 2,150.00
AQM NW	NO2 Gas Module	Nitrogen Dioxide (0-0.2 ppm NO2) GSS gas module with integrated zero cycle	\$ 2,150.00
AQM NX	NOx Gas Module	Nitrogen Oxides (0-0.5 ppm NOx) GSS gas module with integrated zero cycle	\$ 2,150.00
AQM PDL	VOC Gas Module	Volatile Organic Compounds (0-20 ppm VOC) PID gas module	\$ 2,150.00
AQM SOL	SO2 Gas Module	Sulphur Dioxide (0-10 ppm SO2) GSE gas module with integrated zero cycle	\$ 1,990.00
AQM HSL	H2S Gas Module	Hydrogen Sulphide (0-10 ppm H2S) GSE gas module with integrated zero cycle	\$ 1,990.00
AQM ECM	CO Gas Module	Carbon Monoxide (0-25 ppm CO) GSE gas module	\$ 1,990.00
AQM CD	CO2 Gas Module	Carbon Dioxide (0-2000 ppm) NDIR gas module	\$ 1,550.00
<b>AQM 65 INTEGRATED PARTICLE MONITORS AND SHARP CUTS</b>			
AQM PMT	TSP Particle Monitor	Forward light scatter particle monitor for TSP only, incl. heated inlet	\$ 5,300.00
AQM PM10	PM10 Particle Monitor	Forward light scatter particle monitor, incl. heated inlet and PM10 sharp cut	\$ 5,750.00
AQM PM2.5	PM2.5 Particle Monitor	Forward light scatter particle monitor, incl. heated inlet and PM2.5 sharp cut	\$ 6,020.00
AQM PP8	Particle Profiler	Laser particle counter 8 digital channels with instant output to PM10, PM2.5, PM1, TSP	\$ 6,600.00
AIC PM01CYL	PM1 Cyclone	Sharp cut cyclone PM1 ( less than or equal to 1.0 microns)	\$ 1,995.00
AIC PM2.5CYL	PM2.5 Cyclone	Sharp cut cyclone PM2.5 (less than or equal to 2.5 microns)	\$ 720.00
AIC PM10CYL	PM10 Cyclone	Sharp cut cyclone PM10 (less than or equal to 10 microns)	\$ 450.00
<b>AQM 65 FACTORY TESTED AND INTEGRATED ENVIRONMENTAL SENSORS</b>			
AQM AUX	Auxiliary Module	Interface between third party sensors and AQM	\$ 365.00
AQM R1	Gill WindSonic Sensor	Gill WindSonic ultrasonic wind speed & direction sensor (incl. AQM AUX)	\$ 2,300.00
AQM R25	Vaisala Weather Transmitter	Vaisala multi-sensor with integrated heater, mounting kit and bird spike: wind speed, wind direction, precipitation, barometric pressure, air temp., relative humidity (incl. AQM AUX)	\$ 5,990.00
AQM R28	Novalynx Pyranometer	Novalynx silicon pyranometer for measuring solar radiation (incl. AQM AUX)	\$ 2,080.00
AQM R51	Cirrus Noise Meter	Cirrus Class 1 outdoor noise sensor with automatic calibration (incl. AQM AUX)	\$ 5,995.00
AQM R52	Met One MSO	Met One MSO multi-sensor: wind speed, wind direction, barometric pressure, air temperature, relative humidity (incl. AQM AUX)	\$ 2,650.00
<b>AQM 65 FACTORY TESTED AND INTEGRATED COMMUNICATIONS</b>			
AQM R38	Cellular IP Modem	Compact five-band GSM/GPRS/EDGE/UMTS/HSPA IP gateway pre-configured for remote Connect/Cloud access (excl. SIM)	\$ 695.00

<b>AQM 65 CALIBRATION SYSTEMS</b>			
AQM R82 MOD	AIRCAL 8000 Integrated Calibrator Module	Integrated 2-channel module includes traceable multi-point mass flowmeter and mass flow controller and zero air source (excl. regulators, enclosure, gas cylinders)	\$ 4,995.00
AQM R82	AIRCAL 8000 Integrated Calibrator System	Integrated 2-channel system includes traceable multi-point mass flowmeter and mass flow controller, zero air source, regulators and enclosure (excl. gas cylinders)	\$ 5,995.00
AQM R101	AIRCAL 1000 Portable Calibrator	Portable 2-channel calibrator includes integrated gas diluter and zero air source with traceable mass flow controller and mass flow meter (excl. gas cylinders and regulator)	\$ 9,250.00
AIC GASREG01	AIRCAL 1000 Gas Regulator	Gas regulator for AIRCAL 1000. Inlet: CGA C10: 5/8"-18; Outlet: 1/8 Swagelok compression	\$ 830.00
AQM O3CAL	Ozone Calibrator	Portable ozone generator and calibrator for calibration of the AQM 65 ozone gas module	\$ 6,000.00
<b>AQM 65 SPARES &amp; CONSUMABLES</b>			
AQM TMRH	External Temp / RH Sensor	External Temp / RH Sensor	\$ 175.00
AQM R10	PM / Gas Sampling Pump	Sampling pump for particle monitor / gas sampling system	\$ 595.00
AQM R11C	Zero Air Scrubber	Zero air scrubber for AIRCAL 8000 on AQM 65	\$ 275.00
AQM R111	Zero Air Scrubber	Zero air scrubber for AIRCAL 1000	\$ 265.00
AQM R12	Inlet Filters	Standard PTFE inlet filters 5 microns (25 pcs)	\$ 220.00
AQM R30	47 mm Filters	Filter membranes 47 mm PTFE 5 microns (25 pcs)	\$ 210.00
AQM R31	PM Filters	Filter set (2 pcs: 1 for inlet, 1 for purge) for particle monitor	\$ 70.00
AQM R32	PP Filters	Filter set (2 pcs: 1 for inlet, 1 for purge) for 8-channel particle profiler	\$ 70.00
AQM R34	PM Purge Pump	Purge pump for particle monitor	\$ 45.00
AQM R40	Luer Fittings	Selection of luer fittings	\$ 90.00
AIC O-RING04	PM Inlet O-Ring	O-ring for PM base inlet (10 pack)	\$ 5.00
CS TUBE10	Tygon Tube	Tygon exhaust and PM and profiler tubing (per metre)	\$ 15.00
CS TUBE11	Teflon Tube	Teflon sample tubing (per metre)	\$ 15.00
<b>AQM 65 SUPPORT TOOLS</b>			
AQM R7	Hi-Spec Flowmeter Kit	Flowmeter kit includes: TSI Flowmeter 4140 (0.01-20L/min), battery pack, filter, luer fittings - for use with AQM 65 Gas/PM modules and Dust Monitors	\$ 1,295.00
AQM R20	AQM 65 Service Kit	Service pack includes: carry case, Teflon and Tygon tube, tube cutter, screw driver, leak gauge, zero filter and flow assembly, calibration accessories, luer fittings, spare cables	\$ 995.00
AQM R23	Leak gauge	Vacuum gauge for leak test	\$ 110.00
AQM R41	Calibration Humidifier	Calibration gas humidifier kit incl. nafion tube	\$ 195.00
AQM R42	Spare Cables	Power and communications cables (3 x power, 3 x RJ45)	\$ 25.00
AQM R43	Calibration Accessories	Tube, fittings and accessories for calibration with third party calibrators or direct method	\$ 185.00
AQM R47	47 mm Inlet Assembly	External filter for added protection to the inlet sampling system (incl. 2 filter membranes)	\$ 270.00
AQM R56	Zero Filter & Flow Assembly	Zero filter and flow assembly to carry out manual zero and flow check	\$ 95.00
AIC TUBE_CUT	Tube Cutter	Tube cutter for clean cutting tube especially Teflon	\$ 55.00
<b>AQM 65 REPLACEMENT GAS MODULES</b>			
AQM LZ/R	O3 Gas Module	Ozone (0-0.5 ppm O3) GSS gas module with integrated zero cycle	\$ 1,505.00
AQM NW/R	NO2 Gas Module	Nitrogen Dioxide (0-0.2 ppm NO2) GSS gas module with integrated zero cycle	\$ 1,505.00
AQM NX/R	NOx Gas Module	Nitrogen Oxides (0-0.5 ppm NOx) GSS gas module with integrated zero cycle	\$ 1,505.00
AQM PDL/R	VOC Gas Module	Volatile Organic Compounds (0-20 ppm VOC) PID gas module	\$ 1,505.00
AQM SOL/R	SO2 Gas Module	Sulphur Dioxide (0-10 ppm SO2) GSE gas module with integrated zero cycle	\$ 1,393.00
AQM HSL/R	H2S Gas Module	Hydrogen Sulphide (0-10 ppm H2S) GSE gas module with integrated zero cycle	\$ 1,393.00
AQM ECM/R	CO Gas Module	Carbon Monoxide (0-25 ppm CO) GSE gas module	\$ 1,393.00
AQM CD/R	CO2 Gas Module	Carbon Dioxide (0-2000 ppm) NDIR gas module	\$ 1,085.00
<b>AQM 65 REPLACEMENT PARTICLE MONITOR MODULES</b>			
AIC PM80180	PM Optical Module	Replacement particle monitor optical module only for AQM PMT, PM10, PM2.5	\$ 3,150.00
AIC PF9722-1	Profiler Optical Module	Replacement particle profiler optical module only for AQM PP8	\$ 3,400.00
<b>AEROQUAL SOFTWARE PACKAGES</b>			
AQM SUPPORT	Support Software License	SUPPORT includes: table view; calibration; maintenance; diagnostics; map view; journal; Cloud API; and 1-month view historical data (for remote diagnostics and instrument support)	FREE
AQM BASIC	Basic Software License	BASIC includes Support features plus: Basic charts; CSV data download; SMS/Email alerts; FTP/data export; Cloud API; and 12-month view historical data (annual license per instrument)	\$ 600.00
AQM PLUS	Plus Software License	PLUS includes Basic features plus: Advanced charts; network view; wind roses; pollution roses; Cloud API; and unlimited historical data view (annual license per instrument)	\$ 1,000.00
<b>SERVICES*</b>			
AQM EXS_ACT	External Sensor Activation*	Activation of external sensor data in Aeroqual Connect and Cloud (per sensor per AQM)	\$ 150.00
CAL R4	Factory Calibration PM*	Factory calibration for particle monitor (recommended every 2 years)	\$ 325.00
CAL R5	Factory Calibration Profiler*	Factory calibration for particle profiler (recommended every 12 months)	\$ 375.00
TECH SUPP	Advanced Technical Support*	Advanced technical support fee (per hour)	\$ 120.00
TRAINING	On Site Training*	In person training on site by an expert Aeroqual technician (per day, excl. expenses)	\$ 800.00



# FP-25



## Field Flow Calibrator

for Particulate Matter Air Samplers



### All-Weather Accuracy from Anchorage to Miami

Be confident in your flow measurements, no matter the weather. Responsive temp probes and humidity sensors keep the weather in check as you monitor flow, pressure and temperature in real time. Or, collect a robust average of 5000 readings in 5 seconds.

### Fast & Easy Operation for all low-vol samplers

Connect quickly to any low-volume sampler with the industry's only pass-through PM10/PM2.5 inlet connection. Or, use the included barb fitting with face seal for no-hassle fitting changes. Rapid temperature equilibration lets you get started right away.

### Durable Field Design with weatherproof construction

Keep calibrating after a drop from the roof, or finish your audit if it starts to rain. This compact calibrator fits in your pocket but is built tough in an all-aluminum weatherproof body with IP67 connections and the industry's only lifetime warranty.

The Fastest Flow Controller Company in the World!



[alicat.com/fp25](http://alicat.com/fp25)

# FP-25 Flow Calibrator for PM Samplers



## EPA Requirement

## Alicat FP-25 Specs

<b>Flow</b>	<b>Accuracy:</b> <b>Range:</b>	+/- 2% reading	+/- 1.0% reading, NIST-traceable 0.125-25.000 lpm/slp
<b>Pressure</b>	<b>Accuracy:</b> <b>Range:</b>	+/- 5 mmHg 600-800 mmHg	+/- 1 mmHg, NIST-traceable 475-825 mmHg
<b>Temperature</b>	<b>Accuracy:</b> <b>Range:</b>	+/- 0.5°C -30°-45°C	+/- 0.2°C (external temp probe), NIST-traceable -30°-60°C

## Alicat FP-25 Build Specifications

<b>Battery</b>	<b>Life:</b> <b>Recharge:</b>	12 hours of continuous use 3.5 hours via included 2-amp USB power supply
<b>Connections</b>	<b>Fittings:</b> <b>Electrical:</b>	2 downtube Direct Mode adapters and 1 barb fitting micro-USB for digital communications and charging
<b>Durability</b>	<b>FP-25:</b> <b>Case:</b>	IP67 connections, lifetime warranty Waterproof hard case
<b>Dimensions</b>	<b>FP-25:</b> <b>In case:</b>	7.6"x1.4"x2.5" (1.4 lb) 12.5"x14.5"x5.4" (6.7 lb)

Direct connect fittings for sampler downtubes are easy to connect and reduce the likelihood of leaks.

## Calibration Quick-Start

- 1. Connect** the Alicat to your sampler's inlet tube with the direct connect fittings, and then reconnect the 10 hat. Or, connect through the sampler's inlet adapter with the barb fitting and silicone tubing.
- 2. Monitor** live flow (both actual and standardized), barometric pressure and temperature readings as soon as the Alicat powers on.
- 3. Measure** each calibration point by hitting the averaging button. The Alicat will average 1000 readings per second for your chosen duration. Repeat for each calibration point.
- 4. Log** live or timed measurement data by connecting the Alicat to a PC via the USB cable.

[alicat.com/fp25](http://alicat.com/fp25)

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A HALMA COMPANY

# Environmental Flow Standards

*\*All prices listed in US dollars (USD).*



FP-25 and Accessories	Description	Price
<b>FP-25</b>	Flow calibrator for PM air samplers, 0.1-25 lpm (complete kit with accessories in hard case).	\$2,950
<b>FP-25BT</b>	Flow calibrator for PM air samplers with Bluetooth, 0.1-25 lpm (complete kit with accessories in hard case).	\$3,500
<b>FP-BTA</b>	Positionable Bluetooth antenna, for FP-25BT.	\$150
<b>FP-PROBE</b>	External temperature probe with 6 feet of cable and 4-pin M8 connector.	\$150
<b>FP-DMA1</b>	Direct Mode PM inlet adapter (1.25" OD) with 1/4" NPT face seal, for 1.25" sampler downtubes.	\$125
<b>FP-DMA2</b>	Direct Mode downtube adapter (1.25" ID) with 1/4" NPT face seal, for 1.25" sampler downtubes.	\$150
<b>FP-BARB</b>	Barb fitting (0.25" ID) with 1/4" NPT face seal.	\$60
<b>FP-TUBE</b>	5-foot length of 1/4" ID x 7/16" OD silicone tubing.	\$35
<b>PVPS5USB</b>	Micro-B to Type A USB cable with universal 2.0A 100-240 VAC to 5 Vdc wall adapter.	\$55
<b>SCASE</b>	Waterproof hard case with custom foam inserts for FP-25 and its accessories.	\$350
<b>FP-TABLET</b>	Bluetooth-equipped 7" Android tablet, for use with FP-25BT.	\$200

## Environmental Recalibration and Repair Services

Item	Description	Price
<b>FP-25 Recalibration</b>	Includes NIST-traceable calibration certificate (flow, barometric pressure, external temp probe).	\$300
<b>FP-25 Bluetooth Upgrade</b>	Conversion of FP-25 to FP-25BT, includes Bluetooth antenna (FP-BTA)	\$550

Alicat Scientific • 7641 N. Business Park Drive, Tucson, Arizona, USA • +1 (888) 290-6060 • Fax: +1 (520) 290-0109 • [orders@alicat.com](mailto:orders@alicat.com) • [www.alicat.com](http://www.alicat.com)

## Cables and Accessories

*\*All prices listed in US dollars (USD).*

8-pin mini-DIN Cables		Price	6-pin Industrial Cables		Price	D-Sub Cables		Price
DC-61 (6 ft, male-blunt)		\$30	IC10 (10 ft, male-blunt)		\$35	<b>9-pin cables</b>		
DC-6RT (6 ft, right-angle, blunt)		\$35	IC20 (20 ft, male-blunt)		\$55	DB9-31 (3 ft, female-blunt)		\$30
DC-251 (25 ft, male-blunt)		\$55	IC50 (50 ft, male-blunt)		\$100	DB9-61 (6 ft, female-blunt)		\$40
DC-501 (50 ft, male-blunt)		\$90	IC102 (10 ft, male-male)		\$40	DB9-101 (10 ft, female-blunt)		\$50
DC-751 (75 ft, male-blunt)		\$120	IC202 (20 ft, male-male)		\$70	DB9M-31 (3 ft, male-blunt)		\$30
DC-1001 (100 ft, male-blunt)		\$150	IC502 (50 ft, male-male)		\$140	DB9M-61 (6 ft, male-blunt)		\$40
DC-32RS (3 ft, male-male, no analog)		\$30				DB9M-101 (10 ft, male-blunt)		\$50
DC-62RS (6 ft, male-male, no analog)		\$35				<i>For BB9 9-pin cable replacement only:</i>		
DC-62 (6 ft, male-male)		\$35	<b>Cable for EXTSEN-ISC pressure units:</b>			510199 (9 ft, female-female)		\$40
DC-252 (25 ft, male-male)		\$65	ISC10 (10 ft, male-blunt)		\$35	<b>15-pin cables</b>		
DC-502 (50 ft, male-male)		\$100				DBC-251 (25 ft, female-blunt)		\$50
<b>*Custom cable lengths and connectors available. Contact Alicat for pricing.</b>								
Adapter Cables		Price			Price			
USB-MD8-232 8-pin (M) to USB 2.0, 6 ft.		\$100	MD8DB9 8-pin (M) to DB9(F), 6 ft		\$35			
USB-MD8-485 8-pin (M) to USB 2.0, 6 ft.		\$100						
BB9 Breakout Boxes			RS-232 Price		RS-485 Price			
BB9-232 Connects up to (9) 8-pin RS-232 units, 9-pin serial port and USB to PC (incl. cables)			\$185		BB9-485, 8-pin (9), serial port only		\$185	
BB9-I-232 Connects up to (9) 6-pin industrial RS-232 units, 9-pin serial port and USB to PC (incl. cables)			\$185		BB9-I-485, 6-pin (9), serial port only		\$185	
Power Supplies							Price	
PVPS24U 100-240 Vac to 24 Vdc, barrel-type connector, incl. global wall adapters							\$55	
PVPS5USB micro-USB to wall adapter (100-240 Vac, incl. global shape adapters)							\$60	
PS24VHC 24 Vdc, 6.5-amp, for hard-wiring							\$85	
Software							Price	
FLOWVISIONSC Flow Vision SC, for data logging and PC control of all Alicat instruments							\$295	
FLOWVISIONMX Flow Vision MX, for gas mixing with up to 6 Alicat mass flow controllers							\$295	
Protective Cases							Price	
PCASE Pelican carrying case, watertight, dust-tight, holds up to 2 meters or 1 controller (9.25" x 7.1" x 4.1" interior)							\$75	
PCASE-L Pelican carrying case, watertight, dust-tight, holds up to 6 meters and controllers (14.6" x 10.25" x 6.1" interior)							\$155	
Legacy Accessories							Price	
BPACK 9-volt battery pack with pass-through 8-pin connector							\$175	
LSPM local setpoint module (for controllers only), incl. DC-62 8-pin cable							\$400	

## Adapters, Fittings and Filters

*\*All prices listed in US dollars (USD).*

<b>10-32 Compression Fittings</b>		<b>Price</b>	<b>10-32 to 1/8" NPT Adapter</b>		<b>Price</b>	<b>10-32 Filters and Elements</b>		<b>Price</b>
<b>SS-200-1-0157</b>	10-32(M) - 1/8" tube	\$25	<b>410133</b>	10-32 MUNF - 1/8" FNPT adapte	\$15	<b>510053</b>	10-32 5µ filter w/element	\$10
<b>SS-400-1-0256</b>	10-32(M) - 1/4" tube	\$30		(replacement adapter for 10-32/M5 mass flow units)		<b>510054</b>	10-32 20µ filter w/element	\$10
<b>1/8" MNPT Compression Fittings</b>		<b>Price</b>	<b>1/8" Compression Fittings (Metric)</b>		<b>Price</b>	<b>1/8" Filters and Elements</b>		<b>Price</b>
<b>SS-200-1-2</b>	1/8" MNPT - 1/8" tube	\$15	<b>SS-3M0-1-2</b>	1/8" MNPT - 3mm tube	\$15	<b>ILF-1/8-20</b>	1/8" 20µ filter + elemer	\$40
<b>SS-400-1-2</b>	1/8" MNPT - 1/4" tube	\$15	<b>SS-4M0-1-2</b>	1/8" MNPT - 4mm tube	\$15	<b>ILFE20</b>	20µ filter element	\$9
<b>SS-600-1-2</b>	1/8" MNPT - 3/8" tube	\$25	<b>SS-6M0-1-2</b>	1/8" MNPT - 6mm tube	\$15	<b>SS-2F-15</b>	1/8" compression 316L 15µ filte	\$120
<b>SS-810-1-2</b>	1/8" MNPT - 1/2" tube	\$30	<b>SS-8M0-1-2</b>	1/8" MNPT - 8mm tube	\$15			
			<b>SS-12M0-1-2</b>	1/8" MNPT-12mm tube	\$30			
<b>1/4" MNPT Compression Fittings</b>		<b>Price</b>	<b>1/4" Compression Fittings (Metric)</b>		<b>Price</b>	<b>1/4" Filters and Elements</b>		<b>Price</b>
<b>SS-200-1-4</b>	1/4" MNPT - 1/8" tube	\$15	<b>SS-3M0-1-4</b>	1/4" MNPT - 3mm tube	\$15	<b>ILF-1/4-40</b>	1/4" 40µ filter + elemer	\$40
<b>SS-400-1-4</b>	1/4" MNPT - 1/4" tube	\$15	<b>SS-4M0-1-4</b>	1/4" MNPT - 4mm tube	\$15	<b>ILFE40</b>	40µ filter element	\$8
<b>SS-600-1-4</b>	1/4" MNPT - 3/8" tube	\$25	<b>SS-6M0-1-4</b>	1/4" MNPT - 6mm tube	\$15	<b>SS-4F-15</b>	1/4" compression 316L15µ filte	\$140
<b>SS-810-1-4</b>	1/4" MNPT - 1/2" tube	\$25	<b>SS-8M0-1-4</b>	1/4" MNPT - 8mm tube	\$15			
			<b>SS-12M0-1-4</b>	1/4" MNPT-12mm tube	\$25			
<b>1/2" MNPT Compression Fittings</b>		<b>Price</b>	<b>1/2" Compression Fittings (Metric)</b>		<b>Price</b>	<b>1/2" Filters and Elements</b>		<b>Price</b>
<b>SS-200-1-8</b>	1/2" MNPT - 1/8" tube	\$25	<b>SS-6M0-1-8</b>	1/2" MNPT - 6mm tube	\$20	<b>ILF-1/2-40</b>	1/2" 40µ filter + elemer	\$60
<b>SS-400-1-8</b>	1/2" MNPT - 1/4" tube	\$20	<b>SS-8M0-1-8</b>	1/2" MNPT - 8mm tube	\$20	<b>ILFE40L</b>	40µ filter element	\$14
<b>SS-600-1-8</b>	1/2" MNPT - 3/8" tube	\$25	<b>SS-12M0-1-8</b>	1/2" MNPT-12mm tube	\$25			
<b>SS-810-1-8</b>	1/2" MNPT - 1/2" tube	\$25	<b>SS-16M0-1-8</b>	1/2" MNPT-16mm tube	\$30			
<b>SS-1210-1-8</b>	1/2" MNPT - 3/4" tube	\$40						
<b>3/4" MNPT Compression Fittings</b>		<b>Price</b>	<b>3/4" Compression Fittings (Metric)</b>		<b>Price</b>	<b>3/4" Filters and Elements</b>		<b>Price</b>
<b>SS-400-1-12</b>	3/4" MNPT - 1/4" tube	\$35	<b>SS-12M0-1-12</b>	3/4" MNPT-12mm tube	\$35	<b>ILF-3/4-40</b>	3/4" 40µ filter + elemer	\$60
<b>SS-810-1-12</b>	3/4" MNPT - 1/2" tube	\$35	<b>SS-16M0-1-12</b>	3/4" MNPT-16mm tube	\$40	<b>ILFE40L</b>	40µ filter element	\$14
<b>SS-1210-1-12</b>	3/4" MNPT - 3/4" tube	\$40						





## List Pricing

Equipment	Unit Price	List Price
<b>Envidas DAS and Accessories consisting of:</b>		
<b>Envidas Ultimate Software Licenses</b>		
Envidas Ultimate MultiSite		5,746
Envidas Ultimate Standard 128 channels		3,639
Envidas Ultimate Standard 64 channels		3,256
Envidas Ultimate Standard 32 channels		2,777
Envidas Ultimate Lite 16 channels		2,298
Envidas Ultimate Multi Site		14,556
FTP Import Export for Ultimate		259
<b>Envidas FW software upgrades to Ultimate software</b>		
EnvidasFW upgrade to Envidas Ultimate Standard		2,413
EnvidasFW upgrade to Envidas Ultimate 64		2,030
EnvidasFW upgrade to Envidas Ultimate 32		1,551
EnvidasFW upgrade to Envidas Ultimate Lite		1,073
EnvidasFW Lite to Envidas Ultimate Standard		2,796
EnvidasFW Lite to Envidas Ultimate 64		2,413
EnvidasFW Lite to Envidas Ultimate 32		2,011
EnvidasFW Lite to Envidas Ultimate Lite		1,532
<b>Envidas System Unit Hardware</b>		
Advantech Uno Computer, 8 serial ports (232, 485), 1 ethernet, Windows 7.		1,545
Advantech Chassis & Dual Power Supply -4U Rackmount IPC-610		676
Advantech Chassis & 300 Watt Power Supply -4U Rackmount IPC-510MB-00XBE		225
ATX Motherboard : AIMB-766G2-00A2E with VGA, Dual LAN. 4 Serial		303
2 GB RAM :DDR2-800 240PIN 128X8 SAM(G)		77
Intel CORE2 DUO DT 2.8G		225
Western Digital 500G 3.5" SATA 24X7 7200K RPM		161
RAID Interface with Hot Swap Chassis		386
LG 24X SATA DVD+/-RW		64
PCMCIA to PCI card		45
56K Internal Modem : MOD-USR56KPCI		64
56K External Modem : USR		174
SixNet Industrial Modem VT-MODEM-US1		348
Windows - XP Pro SP3 32 bit		238
Rack Slides Pair		97
Advantech Windows - 7 Pro SP1 64 bit		212
Advantech Windows - 7 Pro SP1 32 bit		212
Assembly		129
<b>Data Acquisition Met Sensor Interfaces</b>		
External RM Young Serial Interface - A		597
External RM Young Serial Interface - R		536
<b>Remote IO Subsystems</b>		
ADAM 5000/485 4 slot DA&C System		323
ADAM 5000/LAN 4 slot DA&C System		515

ADAM 5000E-A 8 slot RS-485	542
ADAM 5000E-A 8 slot Ethernet	817
ADAM 5017-A3 8 channel analog in	227
ADAM 5017P-A3 8 channel analog in	295
ADAM 5017H-A3 8 channel analog in	343
ADAM 5018-A3 7 channel thermocouple - mV input	240
ADAM 5024 4 channel Analog out	309
ADAM 5052-A 8 channel isolated DI	117
ADAM 5051-D 16 channel DI	89
ADAM 5069 8 channel Relay output	163
ADAM 5080-A frequency counter	396
ADAM 5050 -16 channel universal digital I/O	144
ADAM 5060 6 channel relay out NO/NC	288
ADAM 4522 RS-232-485 converter	110
ADAM 4017-A3 8 channel analog in	261
ADAM 5056 16 channel D0	110
Relay Module 8 channel External 10 amp	89
Relay Module 4 channel External 10 amp	69
ADAM Power supply	69

### System Unit Accessories

Printer - Inkjet	182
LCD Monitor 17 in	182
LCD Monitor 19 in	242
LCD Monitor 22 in wide screen	364
Mouse A-MOU-PS2	16
Keyboard : AYKB-MITPS2	21
Mouse USB	16
Keyboard USB	21
Keyboard, Mouse and Monitor 25 ft extension cable set	109
Monitor, keyboard tray for rack mount	757
USB Flash 2 GB Memory Stick	55

External Hard Drive - 1 TB	285
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### Serial Port Expansions and Serial I/O Devices

MOXA C104H/PCI	176
MOXA C104UL PCI	206
MOXA CP104EL-A-D9	224
MOXA C168U UPCI with Opt8D cable	303
MOXA C168 PCIx L with Opt8D9 cable	315
MOXA C168 PCIx L with OPT8M9 cable and box	448
MOXA C168H/PCI Surge Protection	333
MOXA C168H/PCI with Opt 8M9 and cable	370
MOXA CP132U	202
ADAM 4541 Serial to FO Converter	345

NPort 5410	485
NPort 5610-16-110	1,194
NPort 5610-8-110	860
NPort 5210	206
CBL-RJ45M9-150	19

Cables (Set)	303
Gender Changer M-F	4
Cable F-F-9-10	17
Cable M-M-9-10	17
Cable M-F-9-10	12
Cable M-F-9-15	18
Cable M-F-9-25	30
Cable M-F-9-50	42
PCLD-785-A	230
PCLD-782-B	200

### Networking Options

EBR-2310 4-port Ethernet Router	67
DI-804HV 4-port Ethernet Router with VPN	97
DI-707P D-Link Router, 7-Port Switch, Print Server	139
DSL-2540B ADSL 2/2 4-Port Gateway	125
DES-1108 8-Port 10/100 Desktop Switch	67
DES-1105 5-Port 10/100 Desktop Switch	55
SR216 16-Port 10/100 Desktop/Rack Switch	133
TrendNet 16-Port POE 10/100 Desktop/Rack Switch	366
Ethernet Cable Crossover 8 ft	18
Ethernet Cables 10 ft	12
Ethernet Cables 25 ft	23
Ethernet Cables 50 ft	35
Digi TransPort WR21 EVDO/HSPA GOBI Model WR21-U81B-DB1-SU	509
Digi TransPort WR21 EVDO/HSPA+ Gobi 3000 WR21-U82B-DB1-SU	515
Digi TransPort WR44 GOBI Model WR44-U800-DE1-SU	901
Digi TransPort WR44 GOBI Model WR44-U8A3-DE1-SU	1,011
DIGI Connectport WAN 3G & VPN	1,056
Digi TransPort WR21-L21B-DE1-SU	644
Digi TransPort WR21-L31B-DE1-SU	644
Digi TransPort WR21-L21B-DE2-SU	676
Digi TransPort WR21-L31B-DE2-SU	676
Digi TransPort WR44 Model ( LTE) #WR44-L200-CE1-SU	953
Digi TransPort WR44 Model ( LTE) #WR44-L300-CE1-SU	953
Digi TransPort WR44 Model (WiFi & LTE) #WR44-L200-NE1-SU	1,062
Digi TransPort WR44 Model (WiFi & LTE) #WR44-L300-NE1-SU	1,062
Serial Cables for U8A3 PN 76000855	22
External Cellular Antenna with 14 ft cable and mounting bracket	132
Cellular Amplifier	309
Digi 900 Mhz Base Station with high gain antennae	1,939
Digi 900 Mhz Remote Station with high gain antennae	1,818
Verizon 1 GB monthly data plan with fixed IP	46
Verizon 5GB monthly data plan with fixed IP	80
Verizon 10 GB monthly data plan with fixed IP	114

### Database Options

MicroSoft SQL Express 2008 R2	0
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<b>UPS</b>	
APC 450 VA Smart UPS	388
APC 650 VA Smart UPS	454
APC 750 VA Smart UPS	515
APC 1000 VA Smart UPS	606
<b>Other Items</b>	
Temp Sensor - Serial	227
IP Camera	333
IP Power Switch with Relays	321
Garmin GPS 18x PC	133

<b>List Pricing</b>	
Dell Tower or Rack Server with Windows 2008R2	\$9,270
MS SQL Server 2008R2 Standard Edition 5 CALS	\$2,060
Tape backup Unit for Dell Tower Server	\$2,369
<b>Central Workstations</b>	
Win 7 Workstation	\$1,803
<b>Laptops</b>	
Win 7 Laptop	\$1,803
<b>Miscellaneous</b>	
Color Laser Printer	\$927
Ink Cartridges for Dell 3130	\$515
HP Inkjet Printer	\$181
Central Software	
<b>SlteView CEM DAS Software</b>	
SVCEMDAS -SITEVIEW CEM DAS - supports open, user created displays, alarm presentations, and a computational engine for mathematical and regulatory calculations.	\$4,115
SVCEMDAS Client -SITEVIEW CEM DAS additional client license	\$407
SVWEB-SITEVIEW Web- Intranet Application	\$3,085
SVRPT- SITEVIEW REPORTER - Emissions reporting capability for regulatory and intra organization purposes. (40 CFR Part 60 compliant)	\$2,055
SVRPTnode - SITEVIEW REPORTER Additional Node licence for REPORTER	\$205
<b>Envista Air Resources Manager (ARM) Software</b>	
ENVSTA-999 Envista Core System (1 ENVISTA ARM license, CommCenter, DB-Scheduler,FTP/EXPORT/IMPORT, Setup Manager, Envieu database) - 999 Monitoring Stations	\$17,253
ENVSTAREG-999 Envista Core System for Regional Nodes (1 ENVISTA ARM license, CommCenter, DB-Scheduler, FTP/EXPORT/IMPORT, Setup Manager) - 999 Monitoring Stations For use only as a regional node with an existing Envista system. Supports only 1 User.	\$8,626
ENVSTA-005 Envista Core System (1 ENVISTA ARM license, CommCenter, DB-Scheduler,FTP/EXPORT/IMPORT, Setup Manager, Envieu database) - 5 Monitoring Stations	\$13,133

ENVSTA-004 Envista Core System (1 ENVISTA ARM license, CommCenter, DB-Scheduler,FTP/EXPORT/IMPORT, Setup Manager, Envview database) - 4 Monitoring Stations	\$11,073
ENVSTA-003 Envista Core System (1 ENVISTA ARM license, CommCenter, DB-Scheduler,FTP/EXPORT/IMPORT, Setup Manager, Envview database) - 3 Monitoring Stations	\$9,013
ENVSTA-002 Envista Core System (1 ENVISTA ARM license, CommCenter, DB-Scheduler,FTP/EXPORT/IMPORT, Setup Manager, Envview database) - 2 Monitoring Stations	\$6,953
ENVSTA-001 Envista Core System (1 ENVISTA ARM license, CommCenter, DB-Scheduler,FTP/EXPORT/IMPORT, Setup Manager, Envview database) - 1 Monitoring Station	\$4,893
ENVSTA-SU Envista User Additional Seats - Unlimited	\$36,050
ENVSTA-S25 Envista User Additional Seats - 25 Concurrent	\$25,750
ENVSTA-S10 Envista User Additional Seats - 10 Concurrent	\$12,875
ENVSTA-S5 Envista User Additional Seats - 5 Concurrent	\$7,725
ENVSTA-S1 Envista User Additional Seats - 1 Concurrent	\$1,803

#### Envista Add-Ins

ENVSTA - XML REPORTER - XML REPORTER - XML files generator and interface to US EPA CDX, State Nodes and Environment Canada's Envista ARM Web	\$10,300
ENVSTA - FPAQC - Filter Processing and Quality Control Add On for Envista Systems	\$8,240
ENVISTAVOICE Envi Voice AQI telephony application	\$7,725
ENVSTA-MAINT MaintainView Web Site Add-in to Envista	\$10,300
ENVSTA-MAINT MaintainView Web Site Stand Alone	\$18,540

#### Envista Web Edition

ENVSTAWEBGIS-C1-U ENVISTA Web Edition with GIS - Air Quality Agency Web Site for Unlimited Stations - Single Server license	\$28,840
ENVSTAWEBGIS-C1-U #2 ENVISTA Web Edition with GIS - Air Quality Agency Web Site - Second Server license	\$7,210
ENVSTAWEBGIS-C2-U ENVISTA Web Edition - Air Quality Agency Web Site	\$24,720
ENVSTAWEB-C2-U #2 ENVISTA Web Edition - Air Quality Agency Web Site - Second Server license	\$6,180
ENVSTAWEB-C2-10 ENVISTA Web Edition - Air Quality Agency Web Site for up to 10 Stations - Single Server license	\$12,360
ENVSTAWEB-C2-10 #2 ENVISTA Web Edition - Air Quality Agency Web Site for up to 10 Stations - Second Server license	\$3,090
ENVSTAWEBGIS-C1-10 ENVISTA Web Edition with GIS - Air Quality Agency Web Site for up to 10 Stations - Single Server license	\$16,480
ENVSTAWEBGIS-C1-10 #2 ENVISTA Web Edition with GIS - Air Quality Agency Web Site for up to 10 Stations - Second Server license	\$4,120
ENVSTAWEB-C2-1 ENVISTA Web Edition - Air Quality Agency Web Site for 1 Station - Single Server license	\$5,150
ENVSTAWEBGIS-C1-1 ENVISTA Web Edition with GIS - Air Quality Agency Web Site for 1 Station - Single Server license	\$9,270



GASERA ONE FORMALDEHYDE is based on tunable laser photoacoustic infrared spectroscopy with Gasera's patented optical cantilever microphone



We offer the GASERA ONE FORMALDEHYDE as follows

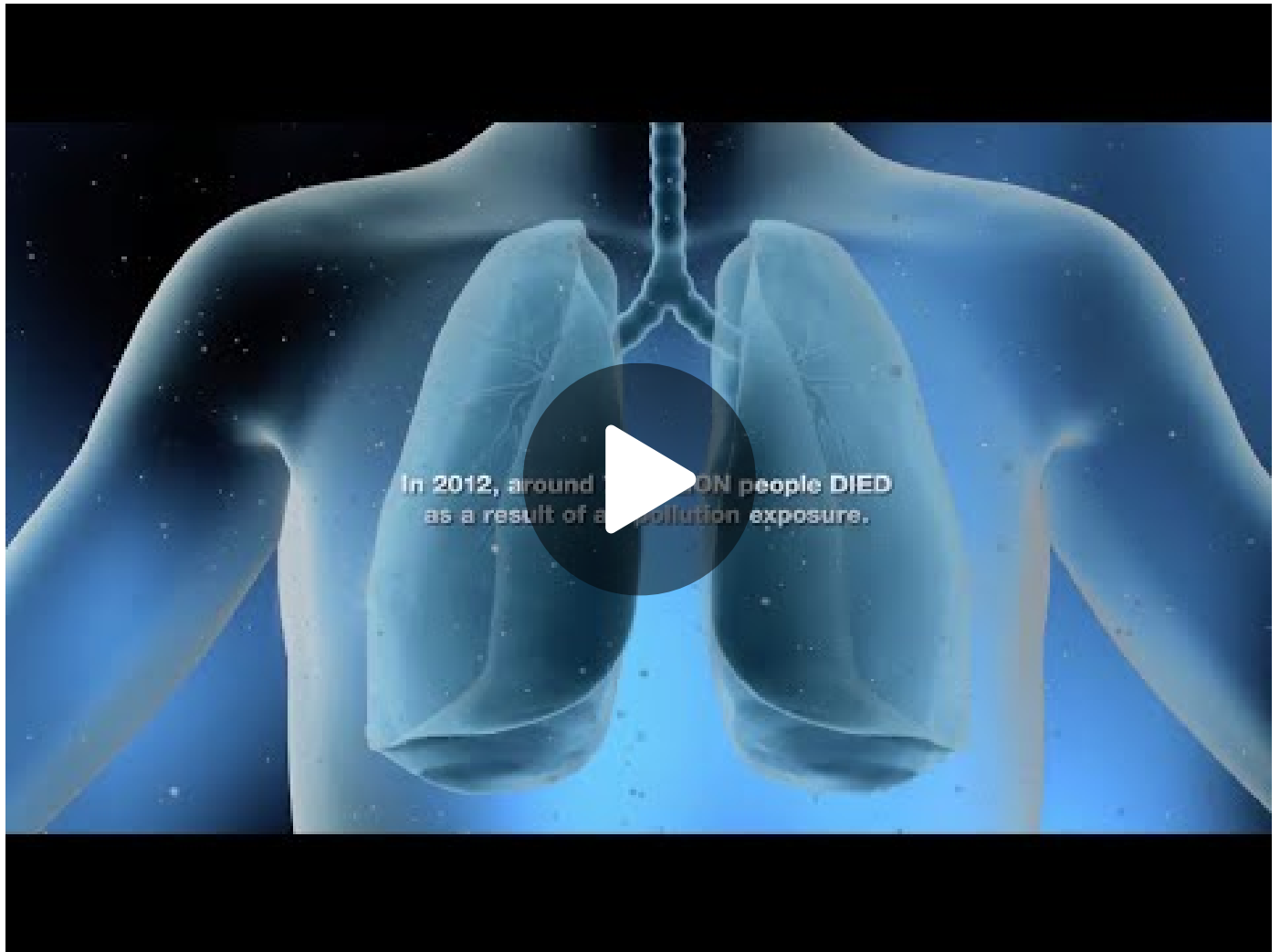
- Several interfaces supported (TCP/IP, Serial, AK, Current loop 4-20 mA)
- Innovative Design and Easy to use User Interface
- Remote diagnostics capability
- One year standard warranty



- Quantitative analysis of Formaldehyde gas in air background
- User configurable gas sampling procedure and channel integration time (CIT). Selectable analyzer response time (longer CIT gives better sensitivity)
- Two-point gas sampling
- Below 1 ppb detection limit for Formaldehyde gas (in air balance)
- Technical details according to GASERA ONE FORMALDEHYDE brochure
- The instrument will be equipped with power cord, gas filters for both incoming gas lines, technical documentation and user manual
- Zero-gas calibration
- Single point span calibration for Formaldehyde gas

Gasera ONE Formaldehyde	\$45,000.00
One point span calibration	\$ 1,200.00
Total	\$46,200.00

Freight and import duties will be charged if needed.





# GASERA

## PHOTOACOUSTIC GAS ANALYZER

# GASERA ONE

## FORMALDEHYDE



Monitoring low levels of formaldehyde in ambient air

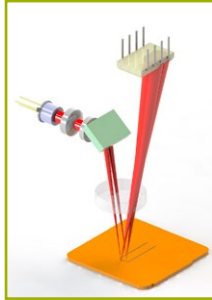
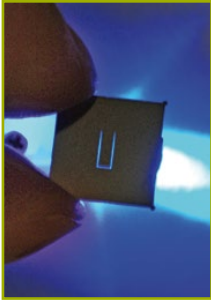
GASERA  
**ONE**  
FORMALDEHYDE

## Measurement need

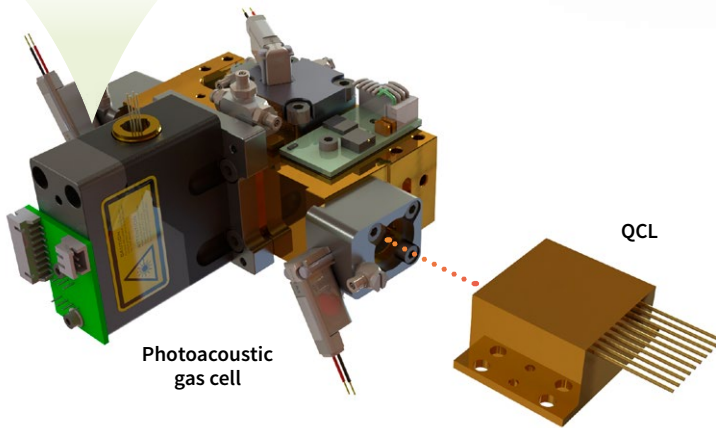
Formaldehyde levels above 0.1 ppm can cause acute health problems, e.g. sore throat, skin irritation, nausea, scratchy eyes and cough. It is also classified as highly carcinogenic compound. Exposure to moderate amounts of formaldehyde has been linked to cancer, such as leukemia.

## Easy-to-use – one button operation

GASERA ONE FORMALDEHYDE provides the user with a simple and intuitive interface with high resolution display and a single rotating knob. In addition, the user can control the GASERA ONE FORMALDEHYDE wirelessly with smartphone, tablet or other devices.



Ultra-sensitive patented optical cantilever microphone



## Technology

GASERA ONE FORMALDEHYDE analyzer is based on combining ultra sensitive cantilever enhanced photoacoustic detection technology with Quantum Cascade Laser source operating at a Mid-IR fundamental spectral absorption line of formaldehyde. This combination provides enough sensitivity to reliably measure ambient background levels of formaldehyde. It also gives an exceptionally high level of stability with a re-calibration period ranging from several months up to several years, and thus it offers a low total cost of ownership.

## Benefits

- Standalone system with built-in gas exchange unit
- Requires no consumables or wet chemistry
- Portability that enables the field use
- Short optical path that provides industry-leading dynamic range with single-point calibration
- Drift-free operation due to direct absorption measurement
- Two built-in sample inputs and wide dynamic range provide the possibility of before-after comparison in different processes
- Highly selective against aldehydes and other VOCs

## Features

- Selective monitoring of formaldehyde
- Below 1 ppb detection limit
- Response time user configurable from 10 seconds to few minutes
- Wide dynamic range and stable operation
- No consumables
- Low sample volume (few ml)
- Built-in gas exchange system
- Long re-calibration interval (several months)
- User configurable monitoring tasks
- Intuitive user interface
- Built-in display presents results both numerically and graphically
- Remote operation via tablet, smartphone or another GASERA ONE

## Application examples

### Fence-line monitoring

Formaldehyde may leak from industrial facilities e.g. generating electricity. These undetected leaks are a significant source of pollution.

### Biogas plants

Another Formaldehyde producer is biogas plants that are increasingly built for energy production.

### New buildings

Formaldehyde is used worldwide in the manufacturing of building materials and household products, and is also a by-product of combustions. As a result, it is one of the most abundant toxic pollutants in indoor air.

### Wood products

Wood products produced in or imported to various countries have to be tested and proven not to emit too much formaldehyde.

### Traffic emissions

Formaldehyde can be found in the exhaust fumes emitted into the atmosphere by cars, buses and trucks.

### Indoor air quality

Fuel burners, burning wood in open fireplaces, cooking and tobacco smoking are all sources of formaldehyde polluting the indoor air. But even the carpet on our floors and the materials our furniture is made from, can be a potential source of formaldehyde.

### Occupational safety

Formaldehyde is common to the chemical industry. It is well known as a preservative in medical laboratories, as an embalming fluid, and as a sterilizer. Its primary use is in the production of resins and as a chemical intermediate.

GASERA

**ONE**  
FORMALDEHYDE

## Technology

- Principle of operation: photoacoustic infrared spectroscopy
- Patented ultra-sensitive optical microphone based on MEMS cantilever sensor coupled with a laser interferometer to measure microscopic movement of the cantilever
- Light source configuration: Distributed Feedback Quantum Cascade Laser
- Gas cell stabilized up to 50°C temperature

## General

- 19" 3U (unit) housing for both table top and rack mount operation
- Dimensions: 48,4 cm W x 13,9 cm H x 44 cm D (19.1 in W x 5.5 in H x 17.3 in D)
- Weight: approx 13 kg
- Built-in computer with a 7" WSVGA display
- Data storage capacity sufficient for at least 1 year of continuous monitoring with the shortest sampling interval
- Total internal gas volume 30 ml
- 4 gas connections in the rear including 2 sample input connections equipped with user changeable filters for dust and small particles
- Electrical connections:  
Input voltage: 110-240 VAC, 50-60 Hz  
Input power: less than 100 W
- Interface: Ethernet, USB
- GASERA ONE FORMALDEHYDE can be remotely operated via smartphone, tablet, laptop or another GASERA ONE. (coming soon)

## Environment

- Operational conditions:  
Temperature range: 0 °C – +40 °C  
Humidity: below 90% RH, non-condensing  
Pressure range: ambient level  
Dust/water resistance: IP20 (IEC 529)
- Storage conditions:  
Temperature range: -20 °C – +60 °C
- Sample gas conditions:  
Temperature: 0 – +49 °C  
Humidity: non-condensing  
Pressure: 930 mbar – 1100 mbar  
Gas flow: approx 1 liters/minute  
Particulates < 1 µm

## Measurement specifications

- Response time: dependent on user configurable channel integration time (C.I.T.) and gas exchange routine. From approx. 10 seconds to few minutes.
- Detection limit: below 1 ppb
- Dynamic range: over 5 orders of magnitude (i.e. 100 000 times the detection limit)
- Repeatability: less than 1 % of measured value in operational conditions at the calibration concentration
- Accuracy: Better than 5% at the calibration concentration. Limited by the calibration gas accuracy.
- Temperature stability: ambient temperature change within the operational temperature range will not cause drift
- Pressure stability: Sample gas pressure change within the pressure range will not cause drift

## Standards

- Complies with the Low Voltage Directive 2014/35/EU, EMC Directive 2004/108/EC and ROHS 2 directive 2011/65/EU

Gasera Ltd. reserves the right to change specifications without notice.

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract #17PSX0210

Delivery: Please see below

Terms: Net 45 Days

Contractor Name: Wilbur Technical Services, LLC


ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES
	<p><b>DISTRIBUTOR: Wilbur Technical Services, LLC</b></p> <p><b>Markes International</b></p> <p>See attached price list for Markes International</p> <p>Authorized Distributor: Yes</p> <p>Price List / Catalog Number - All items in price list Dated: 2017</p> <p>Price List / Catalog Pages On Which: Bidding: All</p> <p>Complete Product Line Offered: Yes</p> <p>Wilbur Technical Support #860-508-7714 7:00 a.m. to 5:00 p.m. (7 days a week - 365 days per year)</p> <p>Shipment 45 Days A.R.O.</p> <p><u>General Repair Service</u> \$155.00/per hr on-site \$155.00/per hr off-site</p>

## Air Server-xr

On-line air monitoring module for UNITY-xr thermal desorber

Part Number	Description	\$ USD List
<b>UNITY–Air Server-xr bundle</b>		
U-UNITY-1-XR	UNITY–Air Server-xr: 3-channel Air Server - includes MFC (2-250 mL/min Air/N <sub>2</sub> , 2-500 mL/min He)	\$ 37,368
U-UNITY-2-XR	UNITY–Air Server-xr: 8-channel Air Server - includes MFC (2-250 mL/min Air/N <sub>2</sub> , 2-500 mL/min He)	\$ 41,562
<b>Air Server-xr module for UNITY-xr (not compatible with UNITY Series 2)</b>		
U-AIRSV3-XR	Air Server-xr: 3-channel module for integrating with UNITY-xr	\$ 10,710
U-AIRSV8-XR	Air Server-xr: 8-channel module for integrating with UNITY-xr	\$ 14,976
<b>System Accessories</b>		
<b>Water management</b>		
U-KORI-XR	Kori-xr for humid samples; allows simultaneous analysis of C <sub>2</sub> and polars, oxygenates and pinenes	\$ 18,243
U-ASDRY	Nafion dryer for humid samples; does NOT allow analysis of polars, oxygenates and pinenes	\$ 2,448
<b>Pumps</b>		
U-ASPM2	Pump for unpressurised samples, 230 Volts	\$ 999
U-ASPM1	Pump for unpressurised samples, 115 Volts	\$ 999
U-ASPM3	Pump for unpressurised samples, 100 Volts	\$ 999

*For cold traps please see consumables price list*

### FULL PRODUCT DESCRIPTION UNITY–Air Server-xr bundles

**UNITY–Air Server-xr with 3 or 8 channels for round-the-clock on-line air/gas monitoring and analysis of single sample tubes with or without RFID tags (TubeTAG™).**

- Cryogen-free, compact unit offering compatibility with all TD applications
- Quantitative re-collection of sample for repeat analysis or data/method validation
- Compatible with any GC(MS)
- Configured for electronic carrier gas control (ECC) for stabilisation of retention times
- Easily upgraded to 100-tube autosampler (see ULTRA-xr tab)

#### Integrated Air Server-xr 3 or 8 module:

- Allows direct on-line sampling to cold-trap from whole air sources (ambient air, canisters, bags, etc.)
- Three or eight sampling channels for canisters, bags or online air/gas streams (e.g. sample, calibrant, zero air)
- Automatic sequencing between sample, calibrant, and zero air channels
- Fully automated control of sampling flow-rates, includes MFC (2-250 mL/min Air/N<sub>2</sub>, 2-500 mL/min He)

#### UNITY–Air Server-xr includes:

- Transfer line and GC/TD cable for connection to any commercial GC or GC/MS. N.B. GC inlet NOT required
- U-T11GPC-2S – general purpose cold trap suitable for most routine applications
- Pressure regulators (U-GAS01) for controlling the supply pressure of dry and carrier gas
- Markes Instrument Control software for Windows® 7 compatible PC
- USB to serial port cable
- 12 month warranty

#### Services required:

- Electricity supply 100-240 V, 50-60 Hz, 650 W
- 100 mL/min dry air or N<sub>2</sub> (50-60 psi, dew point < -50°C) + pure (5.0 grade or better) He, N<sub>2</sub> carrier gas (5-60 psi)

#### Requires, but does not include:

- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with Windows® 7 and an available USB or serial port
- Installation by a fully trained service engineer





# BenchTOF-dx Standard Package

**BenchTOF-dx instrument bundle; including backing pump, PC, 23" monitor. EI-only. No GC. Includes 1-year TargetView license and ClearView time-unlimited**

## SHORT DESCRIPTION

BenchTOF-dx, includes backing pump, std PC & monitor, 110V  
BenchTOF-dx, includes backing pump, std PC & monitor, 220V

LIST PRICE	PART NUMBER
\$177,300	MS-BTOF01-1
\$177,300	MS-BTOF01-2

## SYSTEM ACCESSORIES

Spare EI source, BenchTOF-dx  
BenchTOF, additional PC monitor  
12 month consumables spares kit  
TOF, Filament, Pk 2  
TOF, fused silica capillary (methyl deactivated), 2.5m

\$4,500	MS-EI01
\$900	MS-MONIT
\$1,440	MSC-SPKIT1
\$450	MSC-2FIL01
\$225	MSC-FS2.5M



## FULL PRODUCT DESCRIPTION

**BenchTOF-dx™** is a bench top (reflectron) time-of-flight (TOF) mass spectrometer for the analysis of volatile and semi-volatile organic chemicals. The instrument provides a high performance specification relating to sensitivity and spectral acquisition. BenchTOF-dx incorporates pulsed direct ion extraction from the ionisation chamber using proprietary ion optics for maximum sensitivity. BenchTOF-dx operates as a generic mass detector on multiple GC platforms and accommodates all associated automated sample introduction devices and techniques.

Software (dx-Connect) is provided for instrument control via TCP/IP protocol.

Data output is compatible with established Windows folder-based data analysis systems, and includes export to ANDI universal file format as standard.

Data processing uses (multi-vendor) existing data analysis platforms.

Signal data are dynamically compensated in real-time to minimise non compound-specific background ion interferences using a proprietary DBC algorithm.

The real-time application enables both DBC and non-DBC data streams to be observed and interrogated on-line.

### Package includes (min. spec):

- Quad core Intel processor (4GB RAM), 2x500GB HD (mirrored), 32-Bit Windows XP, 512MB graphics card, 23" flat panel display monitor, 1 Gb LAN network card + 5 port Gb
- Crossover LAN cable (Cat 6)
- External roughing pump: dry-compression (oil-free) diaphragm pump, max delivery 21 l/min, ultimate vacuum 1.5 mBar abs
- BenchTOF-dx toolkit
- 12 months single-user TargetView software license: TargetView uses principal component analysis (PCA) and deconvolution to identify trace compounds
- 12-month warranty from the date of shipment. Third-party (non-ALMSCO) items must be independently warranted by their original manufacturers. ALMSCO cannot offer extended warranty or servicing for these items. Note that spare detector components are NOT included.

### Services required:

- Power supply (MS-only, excluding backing pump or data system) 115/235 V AC  $\pm$ 10% switchable, 50/60 Hz, 400 W
- Power supply (backing pump) 100-240 V, 50-60 Hz, 120 W
- Pure research grade (6.0 / 99.9999%) Helium carrier gas required for optimum system performance

### Requires but does not include:

- Gas chromatograph
- Other vendor data analysis platform required for data analysis, e.g. Agilent ChemStation or ThermoFisher Xcalibur, etc.

**Service installation by a factory-trained engineer is required.**

# BenchTOF-dx for Enhanced Data Processing Package

**BenchTOF-dx instrument bundle; including backing pump, high-spec PC, two 23" monitors. EI-only. No GC. Includes 1-year TargetView license and ClearView**

## SHORT DESCRIPTION

BenchTOF-dx, includes backing pump, high spec PC & 2monitor, 110V  
BenchTOF-dx, includes backing pump, high spec PC & 2monitor, 220V

## LIST PRICE

\$179,100  
\$179,100

## PART NUMBER

MS-BTOF02-1  
MS-BTOF02-2

## SYSTEM ACCESSORIES

Spare EI source, BenchTOF-dx  
BenchTOF-dx, additional PC monitor  
12 month consumables spares kit  
TOF, Filament, Pk 2  
TOF, fused silica capillary (methyl deactivated), 2.5m

\$4,500  
\$900  
\$1,440  
\$450  
\$225

MS-EI01  
MS-MONIT  
MSC-SPKIT1  
MSC-2FIL01  
MSC-FS2.5M



## FULL PRODUCT DESCRIPTION

**BenchTOF-dx™** is a bench top (reflectron) time-of-flight (TOF) mass spectrometer for the analysis of volatile and semi-volatile organic chemicals. The instrument provides a high performance specification relating to sensitivity and spectral acquisition. BenchTOF-dx incorporates pulsed direct ion extraction from the ionisation chamber using proprietary ion optics for maximum sensitivity. BenchTOF-dx operates as a generic mass detector on multiple GC platforms and accommodates all associated automated sample introduction devices and techniques.

Software (dx-Connect) is provided for instrument control via TCP/IP protocol.

Data output is compatible with established Windows folder-based data analysis systems, and includes export to ANDI universal file format as standard.

Data processing uses (multi-vendor) existing data analysis platforms.

Signal data are dynamically compensated in real-time to minimise non compound-specific background ion interferences using a proprietary DBC algorithm.

The real-time application enables both DBC and non-DBC data streams to be observed and interrogated on-line.

### Package includes (min. spec):

- Quad core Intel processor (8GB RAM), 2x1TB HD (mirrored), 64-Bit Windows 7, 1GB graphics card, 2 x 23" flat panel display monitor, 1 Gb LAN network card + 5 port Gb sw
- Crossover LAN cable (Cat 6)
- External roughing pump: dry-compression (oil-free) diaphragm pump, max delivery 21 l/min, ultimate vacuum 1.5 mBar abs
- BenchTOF-dx toolkit
- 12 months single-user TargetView software license: TargetView uses principal component analysis (PCA) and deconvolution to identify trace compounds
- 12-month warranty from the date of shipment. Third-party (non-ALMSCO) items must be independently warranted by their original manufacturers. ALMSCO cannot offer extended warranty or servicing for these items. Note that spare detector components are NOT included.

### Services required:

- Power supply (MS-only, excluding backing pump or data system) 115/235 V AC  $\pm$ 10% switchable, 50/60 Hz, 400 W
- Power supply (backing pump) 100-240 V, 50-60 Hz, 120 W
- Pure research grade (6.0 / 99.9999%) Helium carrier gas required for optimum system performance

### Requires but does not include:

- Gas chromatograph
- Other vendor data analysis platform required for data analysis, e.g. Agilent ChemStation or ThermoFisher Xcalibur, etc.

**Service installation by a factory-trained engineer is required.**

# BenchTOF-dx with Roughing Pump

**BenchTOF-dx instrument including backing pump. EI-only. No GC. Includes 1-year TargetView license and ClearView time-unlimited licence.**

## SHORT DESCRIPTION

BenchTOF-dx, includes backing pump, 110V  
BenchTOF-dx, includes backing pump, 220V

## LIST PRICE

\$172,800  
\$172,800

## PART NUMBER

MS-BTOF04-1  
MS-BTOF04-2

## SYSTEM ACCESSORIES

Spare EI source, BenchTOF-dx  
BenchTOF-dx, additional PC monitor  
12 month consumables spares kit  
TOF, Filament, Pk 2  
TOF, fused silica capillary (methyl deactivated), 2.5m

\$4,500  
\$900  
\$1,440  
\$450  
\$225

MS-EI01  
MS-MONIT  
MSC-SPKIT1  
MSC-2FIL01  
MSC-FS2.5M



## FULL PRODUCT DESCRIPTION

**BenchTOF-dx™** is a bench top (reflectron) time-of-flight (TOF) mass spectrometer for the analysis of volatile and semi-volatile organic chemicals. The instrument provides a high performance specification relating to sensitivity and spectral acquisition. BenchTOF-dx incorporates pulsed direct ion extraction from the ionisation chamber using proprietary ion optics for maximum sensitivity. BenchTOF-dx operates as a generic mass detector on multiple GC platforms and accommodates all associated automated sample introduction devices and techniques.

Software (dx-Connect) is provided for instrument control via TCP/IP protocol.

Data output is compatible with established Windows folder-based data analysis systems, and includes export to ANDI universal file format as standard.

Data processing uses (multi-vendor) existing data analysis platforms.

Signal data are dynamically compensated in real-time to minimise non compound-specific background ion interferences using a proprietary DBC algorithm. The real-time application enables both DBC and non-DBC data streams to be observed and interrogated on-line.

### Package includes:

- Crossover LAN cable (Cat 6)
- External roughing pump: dry-compression (oil-free) diaphragm pump, max delivery 21 l/min, ultimate vacuum 1.5 mBar abs
- BenchTOF-dx toolkit
- 12 months single-user TargetView software license: TargetView uses principal component analysis (PCA) and deconvolution to identify trace compounds
- 12-month warranty from the date of shipment. Third-party (non-ALMSCO) items must be independently warranted by their original manufacturers. ALMSCO cannot offer extended warranty or servicing for these items. Note that spare detector components are NOT included.

### Services required:

- Power supply (MS-only, excluding backing pump or data system) 115/235 V AC  $\pm$ 10% switchable, 50/60 Hz, 400 W
- Power supply (backing pump) 100-240 V, 50-60 Hz, 120 W
- Pure research grade (6.0 / 99.9999%) Helium carrier gas required for optimum system performance

### Requires but does not include:

- Gas chromatograph
- Other vendor data analysis platform required for data analysis, e.g. Agilent ChemStation or ThermoFisher Xcalibur, etc.

**Service installation by a factory-trained engineer is required.**

**ALMSCO**

# Data Processing Software

## Target compound detection software package and GC/MS data reprocessing utility

### SHORT DESCRIPTION

TargetView software - time-unlimited licence  
TargetView software - 12 month licence  
ClearView utility - time-unlimited licence  
ClearView utility - 12 month licence  
NIST11 Library

### LIST PRICE

\$8,100  
\$2,700  
\$2,700  
\$898  
\$3,150

### PART NUMBER

MS-TV01  
MS-TVYR  
C-CVIEW1  
C-CVIEWYR  
MS-NISTSW



### FULL PRODUCT DESCRIPTIONS

**TargetView™** automates the detection and measurement of multiple target chemicals in complex GC/MS data-sets using proprietary algorithms. Comparison with existing commercial (e.g. NIST) or personal mass spectral libraries is automated. TargetView is ideal for those who analyse trace compounds in challenging mixtures for routine or research applications

#### TargetView offers:

- Accurate detection & identification of trace target compounds in complex GC/MS profiles
- Reliable peak abundance information to support conventional data handling
- Easy library creation from existing spectra
- Rapid reporting of all target hits
- Significant time saving: replaces lengthy manual data analysis
- Compatibility with common GC/MS data formats
- Intuitive operation: Learn & use TargetView within minutes

**ClearView™** is an advanced GC/MS reprocessing utility for improved spectral purity and quantitation.

Reprocesses stored GC/MS data files – singly or in batches - creating additional files of processed data. Original GC/MS data files remain unchanged.

#### ClearView advantages:

- Enhances automatic identification of trace target analytes and unknowns in complex samples
- Selectively eliminates interference – flattening baselines, simplifying integration and improving sensitivity
- Simpler integration helps improve quantitative accuracy and run-to-run reproducibility
- ClearView processing is purely additive - original GC/MS data files remain intact and uncompromised
- Reduces costs and boosts lab throughput

### For TargetView and ClearView

#### Please note:

- Software activation requires access to the Internet - although not necessarily on the same PC
- Software must be installed and activated on the PC that will be used for operation. Once registered will not operate on any other PC.

#### Requires but does not include:

- PC running Windows 2000, XP, Vista or 7 with 100 MB of free disk space and a minimum of 512 MB RAM
- Recommended PC requirements: (Windows 7 PC with dual core processor with 1 GB of free disk space and 4 RAM.)

**ALMSCO**

# Training and Installation

BenchTOF-dx, installation\* and instrument familiarisation (up to 4 days)

\$7,000

MS-INSTL

BenchTOF-dx, onsite training course, 3 days (max 4 people)

\$10,000

MS-TRAIN

\* BenchTOF-dx is platform neutral (for connection to Shimadzu GC please contact ALMSCO for further details)

**ALMSCO**  
international



Helium leak detector including 230 V charger	\$2,142.00	C-HEL23
Helium leak detector including 115 V charger	\$2,142.00	C-HEL11
Additional PC monitor	\$900.00	MS-MONIT
NIST11 Library	\$3,245.40	MS-NISTSW
TOF-DS, Additional reprocess copy	\$18,900.00	MS-DSREP
TOF-DS, Additional family reprocess copy	\$35,100.00	MS-DSFRC
TOF-DS, Full family upgrade	\$53,100.00	MS-DSFFU
ChromCompare, File import utility	\$9,900.00	MS-CCFI
TOF-DS site licence	POA	MS-DSSIT
<b>Post-install system upgrades</b>		
BenchTOF-Select upgrade package	\$53,100.00	MS-HDSEL

### Additional information

#### The BenchTOF-HD package includes:

- BenchTOF-HD time-of-flight mass spectrometer – see Brochure and Specification Sheet for full details.
- TOF-DS software for system control, data acquisition and processing.
- Transfer Line
- Starter Kit, including:
  - Dell® PC – Quad core Intel® processor (8 GB RAM), 2 × 1 TB HD (mirrored), 64-bit Windows® 7, 1 GB graphics card.
  - 23" flatscreen monitor.
  - External roughing pump: Dry-compression (oil-free) diaphragm pump, max. delivery 21 L/min, ultimate vacuum 1.5 mbar (absolute).
  - BenchTOF toolkit.
  - 12-month warranty from the date of shipment. Third-party (non-Markes) items must be independently warranted by their original manufacturers.

*Note that spare detector components are not included.*

#### Services required (see Pre-installation Guide for full details):

- Power supply (MS-only, excluding backing pump or data system): 115/235 V a.c. ±10%, switchable, 50/60 Hz, 400 W.
- Power supply (backing pump): 100–240 V, 50–60 Hz, 120 W.

- Pure research-grade (6.0 / 99.9999%) helium carrier gas required for optimum system performance.

**Requires but does not include:**

- Gas chromatograph

**Service installation by a factory-trained engineer is required.**



## BenchTOF-Select

High-performance time-of-flight mass spectrometer for gas chromatography with TOF-DS data analysis package and Select-eV variable-energy electron ionisation technology

Description	List price	Part number
<b>BenchTOF-Select, 110 V</b>		
including standard transfer line	\$232,200.00	MS-BTOF-31011
including standard transfer line, no PC	\$232,200.00	MS-BTOF-31001
including extended-length transfer line	\$232,200.00	MS-BTOF-32011
including extended-length transfer line, no PC	\$232,200.00	MS-BTOF-32001
including high-temperature transfer line	\$232,200.00	MS-BTOF-33011
including high-temperature transfer line, no PC	\$232,200.00	MS-BTOF-33001
<b>BenchTOF-Select, 220 V</b>		
including standard transfer line	\$232,200.00	MS-BTOF-31012
including standard transfer line, no PC	\$232,200.00	MS-BTOF-31002
including extended-length transfer line	\$232,200.00	MS-BTOF-32012
including extended-length transfer line, no PC	\$232,200.00	MS-BTOF-32002
including high-temperature transfer line	\$232,200.00	MS-BTOF-33012
including high-temperature transfer line, no PC	\$232,200.00	MS-BTOF-33002
<b>Recommended system accessories</b>		
BenchTOF high-temperature consumables kit	\$464.40	MS-HTKIT
12-month consumables spares kit	\$1,483.20	MSC-SPKIT1
Filament, pack 2	\$464.40	MSC-2FIL01
Fused silica capillary (methyl-deactivated), 2.5 m	\$232.20	MSC-FS2.5M
Gas purifier, high-capacity, 230 V, 1/8" fittings	POA	C-HCP23



Gas purifier, high-capacity, 110 V, 1/8" fittings	POA	C-HCP11
Helium leak detector including 230 V charger	\$2,142.00	C-HEL23
Helium leak detector including 115 V charger	\$2,142.00	C-HEL11
Additional PC monitor	\$900.00	MS-MONIT
NIST11 Library	\$3,245.40	MS-NISTSW
TOF-DS, Additional reprocess copy	\$18,900.00	MS-DSREP
TOF-DS, Additional family reprocess copy	\$35,100.00	MS-DSFRC
TOF-DS, Full family upgrade	\$53,100.00	MS-DSFFU
ChromCompare, File import utility	\$9,900.00	MS-CCFI
TOF-DS site licence	POA	MS-DSSIT

#### Additional information

##### The BenchTOF-Select package includes:

- BenchTOF-HD time-of-flight mass spectrometer – see Brochure and Specification Sheet for full details.
- TOF-DS software for system control, data acquisition and processing.
- Select-eV variable-energy electron ionisation technology.
- Transfer line.
- Starter kit, including:
  - Dell® PC – Quad core Intel® processor (8 GB RAM), 2 × 1 TB HD (mirrored), 64-bit Windows® 7, 1 GB graphics card.
  - 23" flatscreen monitor.
  - External roughing pump: Dry-compression (oil-free) diaphragm pump, max. delivery 21 L/min, ultimate vacuum 1.5 mbar (absolute).
  - BenchTOF toolkit.
  - 12-month warranty from the date of shipment. Third-party (non-Markes) items must be independently warranted by their original manufacturers.

*Note that spare detector components are not included.*

##### Services required (see Pre-installation Guide for full details):

- Power supply (MS-only, excluding backing pump or data system): 115/235 V a.c. ±10%, switchable, 50/60 Hz, 400 W.
- Power supply (backing pump) 100–240 V, 50–60 Hz, 120 W.
- Pure research-grade (6.0 / 99.9999%) helium carrier gas required for optimum system performance.

**Requires but does not include:**

- Gas chromatograph.

**Service installation by a factory-trained engineer is required.**

## BenchTOF-dx upgrade routes

BenchTOF-dx upgrades for TOF-E10108 onwards

Description	List price	Part number
BenchTOF-HD upgrade package	\$20,700.00	MS-DXHD
BenchTOF-Select upgrade package (pre TOF-E10133)	\$73,800.00	MS-DXSEL01
BenchTOF-Select upgrade package (TOF-E10133 to TOF-E10149)	\$73,800.00	MS-DXSEL02
BenchTOF-Select upgrade package (TOF-E10150 onwards)	\$73,800.00	MS-DXSEL03

### Additional information

**BenchTOF-HD upgrade requires but does not include:**

- Remote PC access for firmware upgrade, or service installation by a factory-trained engineer

**BenchTOF-Select upgrade requires:**

- Service installation by a factory-trained engineer.

## Training and installation

The following are UK-based prices, and do not include expenses for accommodation and travel on overseas trips – these are invoiced separately.

Description	List price	Part number
Installation and familiarisation for a standard BenchTOF system (3 days on site)	\$6,489.00	MS-INSTL
Installation and familiarisation for a GC×GC BenchTOF system (5 days on site)	\$9,270.00	MS-INSTL2
Operator training course on BenchTOF at customer site (3 days on site, up to 4 people)	\$9,270.00	MS-TRGOS
On-site training, applications support or consultancy (price per day)	\$1,816.20	MS-TRAIN

### Additional information

BenchTOF is platform-neutral, but please contact Markes if wishing to connect to a Shimadzu GC.



## User-changeable spares and consumables

### Consumables for BenchTOF-HD and BenchTOF-Select

Description	List price	Part number
12-Month consumables spares kit (BenchTOF-Select)	\$1,483.20	MSC-SPKIT2
Filament, pack 2	\$464.40	MSC-2FIL01
Fused silica capillary (methyl-deactivated), 2.5 m	\$232.20	MSC-FS2.5M
Octafluoronaphthalene (OFN), 1 pg/ $\mu$ L check-standard	\$120.60	MSS-TOF-1099
High-temperature consumables kit	\$464.40	MS-HTKIT
Macor tip, transfer line	\$540.00	MSC-MACTIP



## Service parts

Service parts for BenchTOF-HD and BenchTOF-Select

Description	List price	Part number
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Please contact [support@markes.com](mailto:support@markes.com)



## Software

Software for GC–MS baseline compensation and target compound detection in complex profiles

Description	List price	Part number
ClearView – time-unlimited licence	\$2,781.00	C-CVIEW1
ClearView – 12-month licence	\$925.20	C-CVIEWYR
TargetView – time-unlimited licence	\$8,343.00	MS-TV01
TargetView – 12-month licence	\$2,781.00	MS-TVYR
NIST11 Library	\$3,245.40	MS-NISTSW

### Additional information

**ClearView offers:**

- Baseline compensation of GC–MS data sets for improved spectral purity and quantitation.
- Automated batch processing of multiple data sets.

**TargetView offers:**

- Baseline compensation for improved spectral purity and quantitation.
- Matching against custom or commercially available spectral libraries.
- Automated searching of all components against NIST.
- Library creation from existing spectra.
- Automated batch processing of multiple data sets.

**Please note:**

- Activation of ClearView and TargetView requires access to the internet.
- Once registered and installed on a PC, TargetView will not operate on another PC.

**ClearView and TargetView require but do not include:**

- PC running Windows® 2000, XP, Vista or 7 with 100 MB of free disk space and a minimum of 512 MB RAM.
- Compatible GC–MS data-processing software on the same PC.

## Basic Agilent GC Bundle for BenchTOF

Basic GC/ChemStation® bundle, plus sampler

Part number	Description
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### GC components:

#### **Agilent GC instrument bundle, comprising:**

G3440B	Agilent 7890B mainframe
G3440A #112	Split/splitless inlet with EPC for 7890
G3440A #306	Oven exhaust deflector
G1530-61200	APG remote Y cable
G1701EA	MSD ChemStation® Software, full licence and software

#### **GC options (add as required):**

G3440A #112	Split/splitless inlet with EPC for 7890
G3440A #122	On-column inlet with EPC for 7890
G3440A #150	MultiMode inlet with liquid carbon dioxide cooling
G3440A #151	MultiMode inlet with liquid nitrogen or air cooling
G3440A #211	Flame ionisation detector with EPC for 7890, capillary columns only

### Sampler options:

#### **Agilent liquid-only autosampler bundle, comprising:**

G4513A	AutoInjector for Agilent 7890
G4514A	Tray for G4513A AutoInjector

#### **Agilent CTC sampler (liquid-only) bundle, comprising:**

G6509B	CTC sampler for liquid injections, 120 cm (upgrade to HS/SPME possible)
G3384AA	PAL Control for MSD Productivity ChemStation®
G6509B #003	Trayholder (114 mm) and 98-vial tray, 2 mL
G6509B #101	6890/7890 mounting hardware & cable
8121-1013	USB to RS-232 adaptor cable for alternative connection to PC

#### **Agilent CTC sampler (liquid/headspace) bundle, comprising:**

G6509B	CTC sampler for liquid injections, 120cm (upgrade to HS/SPME possible)
G3384AA	PAL control for MSD Productivity ChemStation®
G6509B #003	Trayholder (114 mm) and 98-vial tray, 2 mL
G6509B #101	6890/7890 mounting hardware & cable
8121-1013	USB to RS-232 adaptor cable for alternative connection to PC
G6509B #111	Headspace upgrade for G6501B / G6509B
G6509B #005	Trayholder (114 mm) and 32-vial tray, 10 mL
5188-2753	Screw vial, 20 mL (pack of 100)
5188-2759	Screw cap, magnetic, UltraClean 18 mm screw-cap with septa, silver, with 1.5 mm PTFE/silicone septa (top white, bottom blue) (pack of 100)

#### **Agilent CTC sampler (liquid/headspace/SPME) bundle, comprising:**

G6509B	CTC sampler for liquid injections 120cm (upgrade to HS/SPME possible)
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G3384AA	PAL control for MSD Productivity ChemStation®
G6509B #003	Trayholder (114 mm) and 98-vial tray, 2 mL
G6509B #101	6890/7890 mounting hardware & cable
8121-1013	USB to RS-232 adaptor cable for alternative connection to PC
G6509B #111	Headspace upgrade for G6501B / G6509B
G6509B #112	SPME upgrade for G6501B / G6509B
G6500-60240	SPME fibre conditioning station
G6509B #005	Trayholder (114 mm) and 32-vial tray, 10 mL
5188-2753	Screw vial, 20 mL (pack of 100)
5188-2759	Screw cap, magnetic, UltraClean 18 mm screw-cap wwith septa, silver, with 1.5 mm PTFE/silicone septa (top white, bottom blue) (pack of 100)

**Markes' TD-100™ thermal desorption bundle, comprising:**

U-TD100-221-2S	TD-100™ (automated re-collection and electronic control of split and desorb flows) with internal standard addition
U-ULKIT	TD automation/ULTRA™ starter kit (includes 160 stainless steel DiffLok caps)
U-TDINS	Installation & familiarisation for TD-100™ (may take up to 1.5 days)
RMK-0009	Routine maintenance kit for TD-100™, including spare cold trap

*N.B.* System requires use of spare SS inlet

Unit price	Quantity	Total price
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		<b><u>\$33,757.87</u></b>
\$15,701.40	1	\$15,701.40
\$3,992.40	1	\$3,992.40
\$156.60	1	\$156.60
\$556.87	1	\$556.87
\$13,350.60	1	\$13,350.60

\$3,992.40	0	\$0.00
\$3,976.20	0	\$0.00
\$9,957.60	0	\$0.00
\$9,957.60	0	\$0.00
\$4,177.80	0	\$0.00

		<b><u>\$15,903.00</u></b>
\$7,326.00	1	\$7,326.00
\$8,577.00	1	\$8,577.00

		<b><u>\$33,145.81</u></b>
\$27,756.00	1	\$27,756.00
\$3,569.40	1	\$3,569.40
\$887.40	1	\$887.40
\$567.00	1	\$567.00
\$366.01	1	\$366.01

		<b><u>\$41,791.21</u></b>
\$27,756.00	1	\$27,756.00
\$3,569.40	1	\$3,569.40
\$887.40	1	\$887.40
\$567.00	1	\$567.00
\$366.01	1	\$366.01
\$6,636.60	1	\$6,636.60
\$887.40	2	\$1,774.80
\$84.60	1	\$84.60
\$149.40	1	\$149.40

		<b><u>\$53,747.86</u></b>
\$27,756.00	1	\$27,756.00

\$3,569.40	1	\$3,569.40
\$887.40	1	\$887.40
\$567.00	1	\$567.00
\$366.01	1	\$366.01
\$6,636.60	1	\$6,636.60
\$6,633.00	1	\$6,633.00
\$5,323.64	1	\$5,323.64
\$887.40	2	\$1,774.80
\$84.60	1	\$84.60
\$149.40	1	\$149.40

**\$65,280.60**

\$59,619.60	1	\$59,619.60
\$2,748.60	1	\$2,748.60
\$1,891.80	1	\$1,891.80
\$1,020.60	1	\$1,020.60

## Agilent/Zoex GC×GC bundle for BenchTOF

Agilent/Zoex ZX1 LN2 (or substitute with ZX2 non-cryogen) GC×GC ChemStation®/GC Image™ bundle

Part number	Description
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### GC components:

#### Agilent GC instrument bundle, comprising:

G3440B	Agilent 7890B mainframe
G3440A #112	Split/splitless inlet with EPC for 7890
G3440A #306	Oven exhaust deflector
G1530-61200	APG remote Y cable
G1701EA	MSD ChemStation® software, full licence
ZX-1 7890	ZX-1 liquid nitrogen thermal modulation, C3 upwards. Requires but does not include pressurised liquid nitrogen vessel (ideally ~200 L) and a supply of clean dry nitrogen gas.
ZX-AFU	Liquid nitrogen autofill
ZX-GCI	GC Image™ & GC project software
ZX Column Set	Custom GC×GC column set to fit client application.
Inst & Training	Installation of GC×GC hardware and software, and instruction (4 days usually required)

#### Zoex ZX2 Option (substitute for items ZX-1 7890 and ZX-AFU if required):

ZX-2 7890	ZX-2 closed-cycle refrigeration thermal modulation, C7 upwards. Requires a supply of clean dry nitrogen gas
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#### GC options (add as required):

G3440A #112	Split/splitless inlet with EPC for 7890
G3440A #122	On-column inlet with EPC for 7890
G3440A #150	MultiMode inlet with liquid carbon dioxide cooling
G3440A #151	MultiMode inlet with liquid nitrogen or air cooling
G3440A #211	Flame ionisation detector with EPC for 7890, capillary columns only
ZX-SDM	Secondary oven for GC×GC

### Sampler options:

#### Agilent liquid-only autosampler bundle, comprising:

G4513A	AutoInjector for Agilent 7890
G4514A	Tray for G4513A AutoInjector

#### Agilent CTC sampler (liquid-only) bundle, comprising:

G6509B	CTC sampler for liquid injections, 120 cm (upgrade to HS/SPME possible)
G3384AA	PAL Control for MSD Productivity ChemStation®
G6509B #003	Trayholder (114 mm) and 98-vial tray, 2 mL
G6509B #101	6890/7890 mounting hardware & cable
8121-1013	USB to RS-232 adaptor cable for alternative connection to PC

#### Agilent CTC sampler (liquid/headspace) bundle, comprising:

G6509B	CTC sampler for liquid injections, 120cm (upgrade to HS/SPME possible)
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G3384AA	PAL control for MSD Productivity ChemStation®
G6509B #003	Trayholder (114 mm) and 98-vial tray, 2 mL
G6509B #101	6890/7890 mounting hardware & cable
8121-1013	USB to RS-232 adaptor cable for alternative connection to PC
G6509B #111	Headspace upgrade for G6501B / G6509B
G6509B #005	Trayholder (114 mm) and 32-vial tray, 10 mL
5188-2753	Screw vial, 20 mL (pack of 100)
5188-2759	Screw cap, Magnetic, UltraClean 18 mm screw-cap with septa, silver, with 1.5 mm PTFE/silicone septa (top white, bottom blue) (pack of 100)

**Agilent CTC sampler (liquid/headspace/SPME) bundle, comprising:**

G6509B	CTC sampler for liquid injections 120cm (upgrade to HS/SPME possible)
G3384AA	PAL control for MSD Productivity ChemStation®
G6509B #003	Trayholder (114 mm) and 98-vial tray, 2 mL
G6509B #101	6890/7890 mounting hardware & cable
8121-1013	USB to RS-232 adaptor cable for alternative connection to PC
G6509B #111	Headspace upgrade for G6501B / G6509B
G6509B #112	SPME upgrade for G6501B / G6509B
G6500-60240	SPME fibre conditioning station
G6509B #005	Trayholder (114 mm) and 32-vial tray, 10 mL
5188-2753	Screw vial, 20 mL (pack of 100)
5188-2759	Screw cap, Magnetic, UltraClean 18mm screw-cap w/septa, silver, with 1.5mm PTFE/silicone septa (top white, bottom blue) (pack of 100)

**Markes' TD-100™ thermal desorption bundle, comprising:**

U-TD100-221-2S	TD-100™ (automated re-collection and electronic control of split and desorb flows) with internal standard addition
U-ULKIT	TD automation/ULTRA™ starter kit (includes 160 stainless steel DiffLok caps)
U-TDINS	Installation & familiarisation for TD-100™ (may take up to 1.5 days)
RMK-0009	Routine maintenance kit for TD-100™, including spare cold trap

*N.B.* System requires use of spare SS inlet

», plus sampler

Unit price	Quantity	Total price
		<b><u>\$133,675.87</u></b>
\$15,701.40	1	\$15,701.40
\$3,992.40	1	\$3,992.40
\$156.60	1	\$156.60
\$556.87	1	\$556.87
\$13,350.60	1	\$13,350.60
\$60,768.00	1	\$60,768.00
\$10,596.60	1	\$10,596.60
\$18,594.00	1	\$18,594.00
\$3,119.40	1	\$3,119.40
\$1,710.00	4	\$6,840.00
\$66,726.00	0	\$0.00
\$3,992.40	0	\$0.00
\$3,976.20	0	\$0.00
\$9,957.60	0	\$0.00
\$9,957.60	0	\$0.00
\$4,177.80	0	\$0.00
\$8,303.40	0	\$0.00
		<b><u>\$15,903.00</u></b>
\$7,326.00	1	\$7,326.00
\$8,577.00	1	\$8,577.00
		<b><u>\$33,145.81</u></b>
\$27,756.00	1	\$27,756.00
\$3,569.40	1	\$3,569.40
\$887.40	1	\$887.40
\$567.00	1	\$567.00
\$366.01	1	\$366.01
		<b><u>\$41,791.21</u></b>
\$27,756.00	1	\$27,756.00

\$3,569.40	1	\$3,569.40
\$887.40	1	\$887.40
\$567.00	1	\$567.00
\$366.01	1	\$366.01
\$6,636.60	1	\$6,636.60
\$887.40	2	\$1,774.80
\$84.60	1	\$84.60
\$149.40	1	\$149.40

**\$53,747.86**

\$27,756.00	1	\$27,756.00
\$3,569.40	1	\$3,569.40
\$887.40	1	\$887.40
\$567.00	1	\$567.00
\$366.01	1	\$366.01
\$6,636.60	1	\$6,636.60
\$6,633.00	1	\$6,633.00
\$5,323.64	1	\$5,323.64
\$887.40	2	\$1,774.80
\$84.60	1	\$84.60
\$149.40	1	\$149.40

**\$65,280.60**

\$59,619.60	1	\$59,619.60
\$2,748.60	1	\$2,748.60
\$1,891.80	1	\$1,891.80
\$1,020.60	1	\$1,020.60

## Agilent GC Bundle for BenchTOF including Optic 4

Agilent GC ChemStation® bundle with Optic 4, plus sampler, LINEX etc.

Part number	Description
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### GC components:

#### **Agilent GC instrument bundle, comprising:**

G3440B	Agilent 7890B mainframe
G3440A #112	Split/splitless inlet with EPC for 7890
G3440A #306	Oven exhaust deflector
G1530-61200	APG Remote Y Cable
G1701EA	MSD ChemStation® Software, full licence
2406-3001	OPTIC-4 injection system with single electronic flow control channel including Evolution workstation control software. Excludes mounting hardware and installation.
2406-4125	OPTIC-4 Installation Kit for Agilent 7890
A100145	Starter kit for LVI sampling, pack of 5 different liners: A100001, A100060, A100049, A100132, A100133
2406-4034	Interface cable for PAL autosampler
2406-4041	Y-shaped remote extension cable, Agilent 7890

#### **GC options (add as required):**

G3440A #211	Flame ionisation detector with EPC for 7890, capillary columns only
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#### **LINEX bundle option for Optic 4 (add as required), comprising:**

2411-3002	LINEX-DMI liner exchanger for OPTIC-4
X200126	USB donontrol box for LINEX
L100011	LINEX DMI tapered liner, pack of 5
2406-1010	OPTIC DMI Sample Insert 30 µL, pack of 100
X800002	Chronos software for integrated control of CTC sampler, Optic 4 and LINEX

*N.B.* A CTC sampler option must be chosen in order to use LINEX.

### Sampler options:

#### **Agilent liquid-only autosampler bundle, comprising:**

G4513A	AutoInjector for Agilent 7890
G4514A	Tray for G4513A AutoInjector

#### **Agilent CTC sampler (liquid-only) bundle, comprising:**

G6509B	CTC sampler for liquid injections, 120 cm (upgrade to HS/SPME possible)
G3384AA	PAL Control for MSD Productivity ChemStation®
G6509B #003	Trayholder (114 mm) and 98-vial tray, 2 mL
G6509B #101	6890/7890 mounting hardware & cable
8121-1013	USB to RS-232 adaptor cable for alternative connection to PC

#### **Agilent CTC sampler (liquid/headspace) bundle, comprising:**

G6509B	CTC sampler for liquid injections, 120cm (upgrade to HS/SPME possible)
G3384AA	PAL control for MSD Productivity ChemStation®



G6509B #003	Trayholder (114 mm) and 98-vial tray, 2 mL
G6509B #101	6890/7890 mounting hardware & cable
8121-1013	USB to RS-232 adaptor cable for alternative connection to PC
G6509B #111	Headspace upgrade for G6501B / G6509B
G6509B #005	Trayholder (114 mm) and 32-vial tray, 10 mL
5188-2753	Screw vial, 20 mL (pack of 100)
5188-2759	Screw cap, Magnetic, UltraClean 18 mm screw-cap with septa, silver, with 1.5 mm PTFE/silicone septa (top white, bottom blue) (pack of 100)

**Agilent CTC sampler (liquid/headspace/SPME) bundle, comprising:**

G6509B	CTC sampler for liquid injections 120cm (upgrade to HS/SPME possible)
G3384AA	PAL control for MSD Productivity ChemStation®
G6509B #003	Trayholder (114 mm) and 98-vial tray, 2 mL
G6509B #101	6890/7890 mounting hardware & cable
8121-1013	USB to RS-232 adaptor cable for alternative connection to PC
G6509B #111	Headspace upgrade for G6501B / G6509B
G6509B #112	SPME upgrade for G6501B / G6509B
G6500-60240	SPME fibre conditioning station
G6509B #005	Trayholder (114 mm) and 32-vial tray, 10 mL
5188-2753	Screw vial, 20 mL (pack of 100)
5188-2759	Screw cap, Magnetic, UltraClean 18 mm screw-cap with septa, silver, with 1.5 mm PTFE/silicone septa (top white, bottom blue) (pack of 100)

**Markes' TD-100™ thermal desorption bundle, comprising:**

U-TD100-221-2S	TD-100™ (automated re-collection and electronic control of split and desorb flows) with internal standard addition
U-ULKIT	TD automation/ULTRA™ starter kit (includes 160 stainless steel DiffLok caps)
U-TDINS	Installation & familiarisation for TD-100™ (may take up to 1.5 days)
RMK-0009	Routine maintenance kit for TD-100™, including spare cold trap

*N.B. System requires use of spare SS inlet*

Unit price	Quantity	Total price
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		<b><u>\$60,416.19</u></b>
\$15,701.40	1	\$15,701.40
\$3,992.40	1	\$3,992.40
\$156.60	1	\$156.60
\$556.87	1	\$556.87
\$13,350.60	1	\$13,350.60
\$24,842.12	1	\$24,842.12
\$887.22	1	\$887.22
\$612.36	1	\$612.36
\$222.68	1	\$222.68
\$93.94	1	\$93.94
\$4,177.80	0	\$0.00
		<b><u>\$22,479.41</u></b>
\$15,622.02	1	\$15,622.02
\$1,818.00	1	\$1,818.00
\$462.74	1	\$462.74
\$177.44	1	\$177.44
\$4,399.20	1	\$4,399.20
		<b><u>\$15,903.00</u></b>
\$7,326.00	1	\$7,326.00
\$8,577.00	1	\$8,577.00
		<b><u>\$33,145.81</u></b>
\$27,756.00	1	\$27,756.00
\$3,569.40	1	\$3,569.40
\$887.40	1	\$887.40
\$567.00	1	\$567.00
\$366.01	1	\$366.01
		<b><u>\$41,791.21</u></b>
\$27,756.00	1	\$27,756.00
\$3,569.40	1	\$3,569.40

\$887.40	1	\$887.40
\$567.00	1	\$567.00
\$366.01	1	\$366.01
\$6,636.60	1	\$6,636.60
\$887.40	2	\$1,774.80
\$84.60	1	\$84.60
\$149.40	1	\$149.40

**\$53,747.86**

\$27,756.00	1	\$27,756.00
\$3,569.40	1	\$3,569.40
\$887.40	1	\$887.40
\$567.00	1	\$567.00
\$366.01	1	\$366.01
\$6,636.60	1	\$6,636.60
\$6,633.00	1	\$6,633.00
\$5,323.64	1	\$5,323.64
\$887.40	2	\$1,774.80
\$84.60	1	\$84.60
\$149.40	1	\$149.40

**\$65,280.60**

\$59,619.60	1	\$59,619.60
\$2,748.60	1	\$2,748.60
\$1,891.80	1	\$1,891.80
\$1,020.60	1	\$1,020.60

## Basic Thermo GC Bundle for BenchTOF

Basic GC/Xcalibur bundle, plus sampler

Part number	Description
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### GC components:

#### Thermo GC instrument bundle, comprising:

14800402	TRACE 1310 mainframe 230 V
19070010	Instant connect split/splitless injector module
1R120479-0001	ISQ software kit, includes Xcalibur 2.2 sp1 and TraceFinder 2.0 sp1 – supports Windows® 7 and Windows® XP SP3

#### Thermo basic GC option (substitute for item 14800302 if required):

14800400	TRACE 1310 mainframe 230 V
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#### GC options (add as required):

19070010	Instant connect split/splitless injector module
19070001	Instant Connect FID module
	On-column inlet with EPC
	PTV inlet with cooling

### Sampler options:

#### Thermo liquid-only autosampler bundle, comprising:

25117581	AS 1310 for TRACE 1300 Series GC (for stand-alone, ISQ and ITQ configurations)
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#### Triplus RSH (CTC) liquid-only sampler bundle, comprising:

1R77010-0400	Extended rail TriPlus RSH base configuration for liquid injections – requires selection of GC mounting kit and tool changer. Note: NO vials, caps and seals are included
1R77010-1020	Tool-releasing station for manually changing syringe tools
1R77010-1005	Mounting brackets for TRACE 1300 Series GC (includes SSL/PTV adaptor nut)
1R77010-1021	Trayholder for VT15, VT54, VT70, and R60 vial trays (also accepts deepwell plates)
1R77010-1023	VT54 vial tray for 2 mL vials. Capacity 54 vials

#### Triplus RSH (CTC) liquid/headspace sampler bundle, comprising:

1R77010-0400	Extended rail TriPlus RSH base configuration for liquid injections – requires selection of GC mounting kit and tool changer. Note: NO vials, caps and seals are included
1R77010-1019	Automatic tool change station for the storage and automatic changing of up to three syringe tools
1R77010-1005	Mounting brackets for TRACE 1300 Series GC (includes SSL/PTV adaptor nut)
1R77010-1021	Trayholder for VT15, VT54, VT70, and R60 vial trays, also accepts deepwell plates
1R77010-1023	VT54 Vial Tray for 2 mL vials. Capacity 54 vials
1R77010-1032	Incubation and agitation oven for up to 6 × 2 mL, 10 mL, or 20 mL vials in the temperature range between room temperature and 200°C
1R77010-1022	VT15 vial tray for 10/20 mL vials. Capacity 15 vials
	HS Syringe tool required
20-HSVST3-CP	Pack of 125 magnetic screw-cap 20 mL headspace vial with 18 mm blue silicone/natural PTFE septa

**TriPlus RSH (CTC) liquid/headspace/SPME sampler bundle, comprising:**

1R77010-0400	Extended rail TriPlus RSH base configuration for liquid injections – requires selection of GC mounting kit and tool changer. Note: NO vials, caps and seals are included
1R77010-1019	Automatic tool change station for the storage and automatic changing of up to three syringe tools
1R77010-1005	Mounting brackets for TRACE 1300 Series GC (includes SSL/PTV adaptor nut)
1R77010-1021	Trayholder for VT15, VT54, VT70, and R60 Vial Trays (also accepts deepwell plates)
1R77010-1023	VT54 vial tray for 2 mL vials. Capacity 54 vials
1R77010-1032	Incubation and agitation oven for up to 6 × 2 mL, 10 mL, or 20 mL vials in the temperature range between room temperature and 200°C
1R77010-1022	VT15 Vial Tray for 10/20 mL vials. Capacity 15 vials HS Syringe tool required
20-HSVST3-CP	Pack of 125 magnetic screw-cap 20 mL headspace vial with 18 mm blue silicone/natural PTFE septa
1R77010-1015	SPME syringe fiber tool. Includes 4 fibers, fibers holder and split/splitless liner
1R77010-1035	SPME fiber conditioning module for conditioning SPME fibers mounted in the SPME tool

**Markes' TD-100™ thermal desorption bundle, comprising:**

U-TD100-221-2S	TD-100™ Advanced (automated re-collection and electronic control of split and desorb flows) with IS addition
U-ULKIT	TD automation/ULTRA™ starter kit (includes 160 stainless steel DiffLok caps)
U-TDINS	Installation & familiarisation for TD-100™ (may take up to 1.5 days)
RMK-0009	Routine maintenance kit for TD-100™, including spare cold trap

*N.B.* System requires use of spare SS inlet

Unit price	Quantity	Total price
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		<b><u>\$24,084.00</u></b>
\$15,282.00	1	\$15,282.00
\$4,428.00	1	\$4,428.00
\$4,374.00	1	\$4,374.00
\$11,628.00	0	\$0.00
\$4,428.00	0	\$0.00
\$5,076.00	0	\$0.00
POA	0	
\$8,028.00	0	\$0.00

		<b><u>\$13,176.00</u></b>
\$13,176.00	1	\$13,176.00

		<b><u>\$27,936.00</u></b>
\$24,570.00	1	\$24,570.00
\$630.00	1	\$630.00
\$756.00	1	\$756.00
\$1,224.00	1	\$1,224.00
\$126.00	6	\$756.00

		<b><u>\$41,922.00</u></b>
\$24,570.00	1	\$24,570.00
\$4,896.00	1	\$4,896.00
\$756.00	1	\$756.00
\$1,224.00	1	\$1,224.00
\$126.00	6	\$756.00
\$4,464.00	1	\$4,464.00
\$126.00	6	\$756.00
\$4,500.00	1	\$4,500.00
\$154.62	1	\$154.62

**\$56,044.62**

\$24,570.00	1	\$24,570.00
\$4,896.00	1	\$4,896.00
\$756.00	1	\$756.00
\$1,224.00	1	\$1,224.00
\$126.00	6	\$756.00
\$4,464.00	1	\$4,464.00
\$126.00	6	\$756.00
\$4,500.00	1	\$4,500.00
\$154.62	1	\$154.62
\$7,884.00	1	\$7,884.00
\$6,084.00	1	\$6,084.00

**\$65,280.60**

\$59,619.60	1	\$59,619.60
\$2,748.60	1	\$2,748.60
\$1,891.80	1	\$1,891.80
\$1,020.60	1	\$1,020.60

## Basic Thermo GC Bundle for BenchTOF including Optic 4

Basic GC/Xcalibur bundle with Optic 4, plus sampler

Part number	Description
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### GC components:

#### Thermo GC instrument bundle, comprising:

14800402	TRACE 1310 mainframe 230 V
19070010	Instant connect split/splitless injector module
1R120479-0001	ISQ software kit, includes Xcalibur 2.2 sp1 and TraceFinder 2.0 sp1 – supports Windows® 7 and Windows® XP SP3
2406-3001	OPTIC-4 injection system with single electronic flow control channel including Evolution workstation control software. Excludes mounting hardware and installation.
2406-4126	OPTIC-4 installation kit for Thermo GC
A100145	Starter kit for LVI sampling, pack of 5 different liners: A100001, A100060, A100049, A100132, A100133
2406-4034	Interface cable for PAL autosampler
2406-4041	Y-shaped remote extension cable Agilent 7890

#### Thermo basic GC option (substitute for item 14800302 if required):

14800400	TRACE 1310 mainframe 230 V
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#### GC options (add if required):

19070010	Instant connect split/splitless injector module
19070001	Instant connect FID module
	On-column inlet with EPC
	PTV inlet with cooling

#### LINEX bundle option for Optic 4 (add if required):

2411-3002	LINEX-DMI liner exchanger for OPTIC-4
X200126	USB control box for LINEX
L100011	LINEX DMI tapered liner, pack of 5
2406-1010	OPTIC DMI sample insert 30 µL, pack of 100
X800002	Chronos Software for Integrated Control of CTC Sampler, Optic 4 and LINEX.

Note: Must have a CTC sampler option to use LINEX, need to verify that LINEX and Chronos software can be use

### Sampler options:

#### Thermo liquid-only autosampler bundle, comprising:

25117581	AS 1310 for TRACE 1300 Series GC (for stand-alone, ISQ and ITQ configurations)
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#### Triplus RSH (CTC) liquid-only sampler bundle, comprising:



1R77010-0400	Extended rail TriPlus RSH base configuration for liquid injections – requires selection of GC mounting kit and tool changer. Note: NO vials, caps and seals are included
1R77010-1020	Tool releasing station for manually changing syringe tools
1R77010-1005	Mounting brackets for TRACE 1300 Series GC (includes SSL/PTV adaptor nut)
1R77010-1021	Trayholder for VT15, VT54, VT70, and R60 vial trays (also accepts deepwell plates)
1R77010-1023	VT54 vial tray for 2 mL vials. Capacity 54 vials

**Triplus RSH (CTC) liquid/headspace sampler bundle, comprising:**

1R77010-0400	Extended rail TriPlus RSH base configuration for liquid injections – requires selection of GC mounting kit and tool changer. Note: NO vials, caps and seals are included
1R77010-1019	Automatic tool change station for the storage and automatic changing of up to three syringe tools
1R77010-1005	Mounting brackets for TRACE 1300 Series GC (includes SSL/PTV adaptor nut)
1R77010-1021	Trayholder for VT15, VT54, VT70, and R60 Vial Trays (also accepts deepwell plates)
1R77010-1023	VT54 Vial Tray for 2 mL vials. Capacity 54 vials
1R77010-1032	Incubation and agitation oven for up to 6 × 2 mL, 10 mL, or 20 mL vials in the temperature range between room temperature and 200°C
1R77010-1022	VT15 vial tray for 10/20 mL vials. Capacity 15 vials HS Syringe tool required
20-HSVST3-CP	Pack of 125 magnetic screw-cap 20 mL headspace vials with 18 mm blue silicone/natural PTFE septa

**Triplus RSH (CTC) liquid/headspace/SPME sampler bundle, comprising:**

1R77010-0400	Extended rail TriPlus RSH base configuration for liquid injections – requires selection of GC mounting kit and tool changer. Note: NO vials, caps and seals are included
1R77010-1019	Automatic tool change station for the storage and automatic changing of up to three syringe tools
1R77010-1005	Mounting brackets for TRACE 1300 Series GC (includes SSL/PTV adaptor nut)
1R77010-1021	Trayholder for VT15, VT54, VT70, and R60 Vial Trays (also accepts deepwell plates)
1R77010-1023	VT54 Vial Tray for 2 mL vials. Capacity 54 vials
1R77010-1032	Incubation and agitation oven for up to 6 × 2 mL, 10 mL, or 20 mL vials in the temperature range between room temperature and 200°C
1R77010-1022	VT15 vial tray for 10/20 mL vials. Capacity 15 vials HS Syringe tool required
20-HSVST3-CP	Pack of 125 magnetic screw-cap 20 mL headspace vials with 18 mm blue silicone/natural PTFE septa
1R77010-1015	SPME syringe fiber tool. Includes 4 fibers, fibers holder and split/splitless liner
1R77010-1035	SPME fiber conditioning module for conditioning SPME fibers mounted in the SPME tool

**Markes' TD-100™ thermal desorption bundle, comprising:**

U-TD100-221-2S	TD-100™ Advanced (automated re-collection and electronic control of split and desorb flows) with IS addition
U-ULKIT	TD automation/ULTRA™ starter kit (includes 160 stainless steel DiffLok caps)
U-TDINS	Installation & familiarisation for TD-100™ (may take up to 1.5 days)
RMK-0009	Routine maintenance kit for TD-100™, including spare cold trap

*N.B. System requires use of spare SS inlet*

**CIA Advantage-xr**

Automated canister sampling module for UNITY-xr thermal desorber.

Part Number	Description	\$ USD List
<b>UNITY-CIA Advantage-xr bundle</b>		
U-UNITY-5-XR	UNITY-CIA Advantage T-xr: 4 channels	\$ 43,048
U-UNITY-6-XR	UNITY-CIA Advantage HL-xr: 14 channels	\$ 56,520
<b>CIA Advantage-xr modules for UNITY-xr and UNITY 2</b>		
U-CIA-T-2S	CIA Advantage T-xr: 4 channel module for integrating with UNITY-xr or UNITY 2	\$ 23,616
U-CIA-HL-2S	CIA Advantage HL-xr: 14 channel module for integrating with UNITY-xr or UNITY 2	\$ 39,112
U-CIASAT-2S	CIA Satellite-xr: additional 13 channel module for use with CIA Advantage T-xr or CIA Advantage HL-xr	\$ 20,168
<b>System Accessories</b>		
<b>Water management</b>		
U-KORI-XR	Kori-xr for humid samples; allows simultaneous analysis of C2 and polars, oxygenates and pinenes	\$ 18,243
U-ASDRY	Nafion dryer for humid samples; does NOT allow analysis of polars, oxygenates and pinenes	\$ 2,448
<b>Pumps</b>		
U-ASPM2	Pump for unpressurised samples, 230 Volts	\$ 999
U-ASPM1	Pump for unpressurised samples, 115 Volts	\$ 999
U-ASPM3	Pump for unpressurised samples, 100 Volts	\$ 999
<b>Heated sample lines</b>		
U-HTLNKT	Heated Sample Lines for CIA Advantage HL-xr & CIA Satellite-xr (compatible with older series)	\$ 4,230
U-HTLNKT-T	Heated Sample Lines for CIA Advantage T-xr (compatible with older series)	\$ 1,386
<b>Humidifier</b>		
U-HUMID	Humidifier for CIA Advantage to flush flow path	\$ 913
<b>Canister cleaner</b>		
U-TOCLN120	TO-Clean Canister Cleaning System with Isothermal Oven 120 VAC	<a href="mailto:enquiries@markes.com">Email enquiries@markes.com for pricing</a>
U-TOCLN220	TO-Clean Canister Cleaning System with Isothermal Oven 220-240 VAC	<a href="mailto:enquiries@markes.com">Email enquiries@markes.com for pricing</a>
<b>Canister rack</b>		
U-RACK02	Maxi Rack (accommodates up to 15 6L canisters)	\$ 6,586

For cold traps please see consumables price list

**FULL PRODUCT DESCRIPTION UNITY-CIA Advantage-xr bundles**

UNITY-CIA Advantage-xr is a method compliant system for automated canister sampling and analysis of single sample tubes with or without RFID tags (TubeTAG™). Available in two versions

- T for trace concentrations, includes Mass Flow Control (MFC) sample introduction
- HL for high and low concentrations, includes both MFC and loop options for sample introduction
- Cryogen-free, for advanced water management, reduced running costs and enhanced productivity.
- 4-27 channels depending on configuration and compatible with all canister/bag types/sizes.
- Compatible with air toxics (canister or bag) in ambient air and soil gas analysis per US EPA Method TO-15 and other canister standards
- Heated internal flow paths (up to 200°C) prevent carryover and allow high and trace level samples to be analysed in the same sequence without the need for dilution.
- Thermostated internal standard addition (1 mL loop - inert) for optimal precision
- Fully automated control of sampling flow-rates, times and multi-channel sequencing
- TO-17 compatible tube desorption capability features quantitative re-collection for repeat analysis
- Easily upgraded with 100-tube autosampler (see ULTRA-xr tab)
- Compatible with any GC(MS) and with all thermal desorption applications
- Configured for electronic carrier gas control (ECC) for stabilisation of retention times

**UNITY-CIA Advantage-xr includes:**

- Transfer line and GC/TD cable for connection to any commercial GC or GC/MS. N.B. GC inlet NOT required
- U-T15ATA-2S – TO-15/TO-17 Air Toxics applications specific cold trap
- Markes Instrument Control software for Windows® 7 compatible PC
- Pressure regulators (U-GAS01 x 2) for controlling the supply pressure of dry and carrier gases
- 2 USB to serial port cables
- 12 month warranty

**Services required:**

- Electricity supply 100-240 V, 50-60 Hz, 1550 W Total
- 100 mL/min dry air or N2 (50-60 psi, dew point < -50°C) + pure (5.0 grade or better) He or N2 carrier gas (5-60 psi)

**Requires, but does not include:**

- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with Windows® 7 and up to 3 available USB or serial ports
- Installation by a fully trained service engineer

**Add ons**

**CIA Satellite-xr module**

Adds an additional 13 channels to CIA Advantage T-xr or CIA Advantage HL-xr, features and performance as described for bundles

**CIA Satellite-xr includes**

- Transfer line for connection to HL or T module
- USB to serial port cable
- 12 month warranty

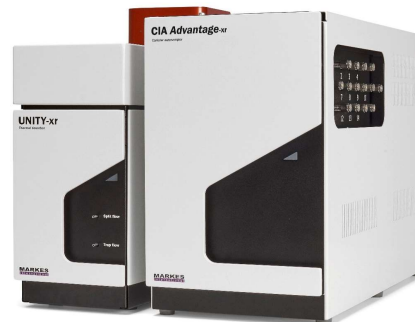
**Services required:**

- Electricity supply 100-240 V, 50-60 Hz, 650 W
- 100 mL/min dry air or N2 (50-60 psi, dew point < -50°C) + pure (5.0 grade or better) He, N2 carrier gas (5-60 psi)

**Requires, but does not include:**

- UNITY-CIA Advantage-xr system either T or HL version
- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with Windows® 7 and up to 3 available USB or serial ports
- Installation by a fully trained service engineer

\* For details of canisters, and accessories for canisters see Markes TD consumables and accessories catalogue



## TD100-xr

Automated tube thermal desorber for up to 100 x 3.5-inch tubes.

Part Number	Description	\$ USD List
<b>TD100-xr</b>		
U-TD100-1-XR	TD100-xr Standard with manual control of split and desorb flows	\$ 44,775
U-TD100-3-XR	TD100-xr Standard with electronic control of split and desorb flows	\$ 50,940
U-TD100-2-XR	TD100-xr Advanced (automated re-collection and electronic control of split and desorb flows)	\$ 57,114
<b>System Accessories</b>		
U-ISDPAC-XR	ISDP accessory for TD100-xr or ULTRA-xr (all versions) with regulator (U-GAS03) for purging IS gas - Field Installable	\$ 7,344
C-CSLR	Calibration solution loading rig	\$ 617
<b>System Starter Kits</b>		
C-TDKIT-02	Essential Automated TD Starter Kit	\$ 6,300
U-ULKIT	Automated TD Booster Kit	\$ 3,528
C-TAGKT	Essential TubeTAG Starter Kit (Stainless steel tubes)	\$ 1,674
<b>Application Starter Kits</b>		
C-TO17KIT	TO17 Starter Kit	\$ 7,650
C-KITME01-2S	Material Emissions Starter Kit	\$ 2,970
C-KITDD-2S	Direct desorption (VDA 278) starter kit	\$ 3,780
C-KIT325T-2S	EPA 325 Starter Kit	\$ 2,772
<b>TD100-xr Upgrade</b>		
U-TD100-UPGD	Upgrade TD100-xr, standard (manual re-collection) to advanced (automated re-collection)	\$ 13,842

*For cold traps please see consumables price list*

**FULL PRODUCT DESCRIPTION TD100-xr**

**TD100-xr™ Automated Thermal Desorber for industry standard (3.5-inch x ¼-inch O.D.) sample tubes with or without RFID tags (TubeTAG™).**

- 100-tube automation with built-in TubeTAG RFID tag read/write functionality for enhanced tube and sample tracking
- Tubes are sealed using Difflok caps while on TD100-xr, before, throughout and after analysis to preserve sample integrity and prevent contamination of conditioned tubes
- Simple, robust operation (no capping or uncapping required)
- Cryogen-free, compact unit offering compatibility with all tube TD applications
- Quantitative manual (inlet and outlet) re-collection of sample for repeat analysis or data/method validation included on all versions
- Automation of outlet re-collection supplied factory fitted on 'Advanced' models and available for 'Standard' versions as a field upgrade
- Compatible with any GC(MS)
- Configured for electronic carrier gas control (ECC) for stabilisation of retention times

**TD100-xr includes:**

- Transfer line and GC/TD cable for connection to any commercial GC or GC/MS. N.B. GC inlet NOT required
- U-T11GPC-2S – general purpose cold trap suitable for most routine applications
- Markes Instrument Control software for Windows® 7 compatible PC
- Pressure regulators (U-GAS01) for controlling the supply pressure of dry and carrier gas
- USB to serial port cable
- 12 month warranty

**Services required:**

- Electricity supply 100-240 V, 50-60 Hz, 650 W
- 100 ml/min dry air or N2 (50-60 psi, dew point < -50°C) + pure (5.0 grade or better) He, N2 carrier gas (5-60psi)

**Requires, but does not include:**

- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with Windows® 7 and an available USB or serial port
- Installation by a fully trained service engineer

**NOTE: TD100-xr is not compatible with AirServer-xr or CIA Advantage -xr products.**

**For canister, bag and/or online sampling an (ULTRA-xr) UNITY–Air Server-xr/CIA Advantage -xr is required.**

\* For details of application and starter kit contents see Markes TD consumables and accessories catalogue



## Manual tube desorption

UNITY 2 thermal desorber for 3.5-inch tubes configured for electronic carrier gas control. Connects to all GC brands.

### SHORT DESCRIPTION

UNITY 2 with manual control of split and desorb flows  
UNITY 2 with electronic control of split and desorb flows

### LIST PRICE

\$23,985.00  
\$29,714.40

### PART NUMBER

U-UNITY-XX-2S  
U-UNITY-XX-MFC-2S

### STARTER SYSTEM ACCESSORIES

Dual regulator (dry gas/carrier gas) pneumatics accessory  
Basic thermal desorption consumables kit, UNITY 2, 3½" \*  
Comprehensive thermal desorption consumables kit, UNITY 2, 3½" \*  
Calibration solution loading rig  
Routine maintenance kit, UNITY 2, 3½", without cold trap

\$1,242.00  
\$1,810.80  
\$6,744.60  
\$583.20  
\$460.80

U-GAS01  
C-KIT012-2S  
C-KIT02-2S  
C-CSLR  
RMK-0004-2S



### FULL PRODUCT DESCRIPTION UNITY 2

**UNITY 2™** platform thermal desorber for single (3.5-inch x ¼-inch O.D.) sample tubes with or without RFID tags (TubeTAG™).

- Cryogen-free, compact unit offering compatibility with all TD applications
- Quantitative re-collection of sample for repeat analysis or data/method validation (SecureTD-Q™)
- Compatible with any GC(MS) and offers a versatile upgrade path for tube automation and/or canister/online automation
- Configured for electronic carrier gas control (ECC) for stabilisation of retention times

#### **UNITY 2 includes:**

- Transfer line and GC/TD cable for connection to any commercial GC, GC/MS. *NB:* GC inlet NOT required
- U-T11GPC-2S – general purpose cold trap suitable for most routine applications
- Controlling software for 32- or 64-bit Windows® compatible PC
- USB to serial port cable
- 12 month warranty

#### **Services required:**

- Electricity supply 100-240 V, 50-60 Hz, 650 W
- 100 ml/min dry air or N<sub>2</sub> (50-60 psi, dewpoint < -50°C) + pure (5.0 grade or better) He, N<sub>2</sub> or H<sub>2</sub> carrier gas (settable 5-60psi)

#### **Requires, but does not include:**

- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with 32- or 64-bit Windows® and an available USB or serial port
- External pressure regulation for the supply of carrier gas and dry air (5-60psi carrier gas, 50-60psi dry air). We recommend U-GAS01 accessory

\* For details of consumables and maintenance kit contents see Markes TD consumables and accessories catalogue

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# Automated tube desorption

TD-100 automated thermal desorber for up to 100 3.5-inch tubes, configured for electronic gas carrier control. Connects to all GC brands.

## SHORT DESCRIPTION

	LIST PRICE	PART NUMBER
TD-100 Standard with manual control of split and desorb flows	\$41,572.80	U-TD100-11X-2S
TD-100 Standard with electronic control of split and desorb flows	\$47,300.40	U-TD100-31X-2S
TD-100 Standard with Internal Standard (IS) addition and manual control of split and desorb flows	\$48,160.80	U-TD100-121-2S
TD-100 Standard with Internal Standard (IS) addition and electronic control of split and desorb flows	\$53,890.20	U-TD100-321-2S
TD-100 Advanced (automated re-collection and electronic control of split and desorb flows)	\$53,029.80	U-TD100-21X-2S
TD-100 Advanced (automated re-collection and electronic control of split and desorb flows) with IS addition	\$59,619.60	U-TD100-221-2S

## STARTER SYSTEM ACCESSORIES

TD-100 starter kit (includes 160 st st DiffLok caps, pk 10 Tenax/Carbograph 1TD tubes etc)*	\$4,147.20	U-TDKIT-100
TD automation/ULTRA starter kit (includes 160 st st DiffLok caps)*	\$2,748.60	U-ULKIT
TubeTAG start-up kit (for stainless steel tubes)*	\$1,440.00	C-TAGKT
Calibration solution loading rig	\$583.20	C-CSLR
Routine maintenance kit, TD-100, without trap*	\$460.80	RMK-0010

## FULL PRODUCT DESCRIPTION TD-100

**TD-100™** automated thermal desorber for industry standard (3.5-inch x ¼-inch O.D.) sample tubes with or without RFID tags (TubeTAG™).

- 100-tube automation with built-in TubeTAG RFID tag read/write functionality for enhanced tube and sample tracking
- Offers cryogen-free operation and compatibility with all TD applications
- Quantitative manual re-collection of sample for repeat analysis or data/method validation (SecureTD-Q™) included on all versions
- Automation of re-collection supplied factory fitted on 'Advanced' models and available for 'Standard' versions as a field upgrade
- Compatible with any GC(MS) and configured for electronic carrier gas control (ECC) for stabilisation of retention times

### TD-100 includes:

- Transfer line and GC/TD cable for connection to any commercial GC or GC/MS. *N.B.* GC inlet NOT required
- U-T11GPC-2S – general purpose cold trap suitable for most routine applications
- Controlling software for 32- or 64-bit Windows® compatible PC
- Pressure regulators (U-GAS01) for controlling the supply pressure of dry and carrier gas (and U-GAS03 for purging internal standard gas onto the sample tube if required)
- 2 USB to serial port cables
- 12 month warranty

### Services required:

- Electricity supply 100-240 V, 50-60 Hz, 650 W
- 100 ml/min dry air or N<sub>2</sub> (50-60 psi, dewpoint < -50°C) + pure (5.0 grade or better) He, N<sub>2</sub> or H<sub>2</sub> carrier gas (5-60psi)

### Requires, but does not include:

- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with 32- or 64-bit Windows® and 2 available USB or serial ports

**NOTE: TD-100 is not compatible with Air Server or CIA products.  
For canister, bag and/or online sampling an (ULTRA)UNITY-Air Server/CIA is required.**

\* For details of 'starter', 'start-up' and maintenance kit contents see Markes TD consumables and accessories catalogue

**MARKES**  
international



f IS accessory included)

## Inline air monitoring

UNITY 2 thermal desorber for 3.5-inch tubes with pre-configured Air Server accessory. Configured for electronic carrier gas control and connects to all GC brands.

### SHORT DESCRIPTION

	LIST PRICE	PART NUMBER
UNITY 2 with Air Server 3 (includes a 2-250 mL/min MFC)	\$34,774.20	U-UNITY-11-2S
UNITY 2 with Air Server 8 (includes a 2-250 mL/min MFC)	\$38,592.00	U-UNITY-21-2S

### STARTER SYSTEM ACCESSORIES

Pump for Air Server 230 V for unpressurised samples	\$936.00	U-ASPM2
Pump for Air Server 115 V for unpressurised samples	\$936.00	U-ASPM1
Optional nafion dryer for humid samples	\$2,309.40	U-ASDRY
Routine maintenance kit, UNITY 2, 3½", without cold trap*	\$460.80	RMK-0004-2S
Routine maintenance Kit, 3½", Air Servers and CIA 8*	\$262.80	RMK-0003-2S



### FULL PRODUCT DESCRIPTION UNITY 2 with Air Server 3 or 8

#### UNITY 2™ with Air Server 3 or 8 platform thermal desorber for round-the-clock inline air/gas monitoring and analysis of single sample tubes with or w

- Cryogen-free, compact unit offering compatibility with all TD applications
- Quantitative re-collection of sample for repeat analysis or data/method validation (SecureTD-Q™)
- Compatible with any GC(MS)
- Configured for electronic carrier gas control (ECC) for stabilisation of retention times
- Easily upgraded to 100-tube autosampler (see Series 2 ULTRA options in add-ons)

#### Integrated Air Server 3 or 8 module:

- Allows direct online sampling to cold-trap from whole air sources (ambient air, canisters, bags, etc.)
- Three or eight sampling channels canisters, bags or online air/gas streams (e.g. sample, calibrant, zero air)
- Fully automated control of sampling flow-rates, times and 3- or 8- channel sequencing (includes a 2-250 mL/min MFC)

#### System includes:

- Transfer line and GC/TD cable for connection to any commercial GC or GC/MS. *N.B.* GC inlet NOT required
- U-T11GPC-2S – general purpose cold trap suitable for most routine applications
- Pressure regulators (U-GAS01) for controlling the supply pressure of dry and carrier gas
- Controlling software for 32- or 64-bit Windows® compatible PC
- USB to serial port cable
- 12 month warranty

#### Services required:

- Electricity supply 100-240 V, 50-60 Hz, 650 W
- 100 mL/min dry air or N2 (50-60 psi, dewpoint < -50°C) + pure (5.0 grade or better) He, N2 or H2 carrier gas (5-60 psi)

#### Requires, but does not include:

- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with 32- or 64-bit Windows® and an available USB or serial port

\* For details of maintenance kit contents see Markes TD consumables and accessories catalogue

# CIA Advantage Automated Canister

UNITY 2 thermal desorber with latest Canister Interface Accessory. Configured for electronic carrier gas control and cor

## SHORT DESCRIPTION LIST PRICE

### CIA Advantage system bundles:

CIA Advantage T bundle (includes UNITY 2) (4 channels)	\$40,072.32
CIA Advantage HL bundle (includes UNITY 2) (14 channels)	\$52,620.84
CIA Advantage T and CIA Satellite bundle (includes UNITY 2) (17 channels)	\$45,219.06
CIA Advantage HL and CIA Satellite bundle (includes UNITY 2) (27 channels)	\$62,010.36

### ADD-ONS FOR EXISTING UNITY 2 SYSTEMS

CIA Advantage T (4 channels)	\$21,983.40
CIA Advantage HL (14 channels)	\$36,414.36
CIA Satellite (add on to T or HL models for +13 channels)	\$18,772.56
CIA Advantage T plus Satellite (17 channels)	\$40,755.96
CIA Advantage HL plus Satellite (27 channels)	\$55,185.30

### Accessories for CIA Advantage system bundles

TO-Clean Canister Cleaning System with Isothermal Oven 120 VAC	POA
TO-Clean Canister Cleaning System with Isothermal Oven 220-240 VAC	POA
Diluter	POA
Bench Rack (accommodates up to 15 1L canisters)	POA
Maxi Rack (accommodates up to 15 6L canisters)	\$5,665.14
Heated Sample Lines for CIA-A HL & Satellite	POA
Heated Sample Lines for CIA-A Trace	POA
Humidifier	\$772.74

### STARTER SYSTEM ACCESSORIES

Pump 230 V for unpressurised samples	\$936.00
Pump 115 V for unpressurised samples	\$936.00
Optional nafion dryer for humid samples	\$2,309.40
Routine maintenance kit, 3½" for Markes online systems*	\$262.80
Routine maintenance kit, UNITY 2, 3½", without cold trap*	\$460.80

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## FULL PRODUCT DESCRIPTION: CIA Advantage Bundles

Method compliant systems for automated canister analysis and desorption of single sample tubes with or without RFID

- Trace (T bundle) including Mass Flow Control (MFC) sample introduction
- Hi/Lo (HL bundle) including, both MFC and loop options for sample introduction

### Features

- Operates cryogen-free, for advanced water management, reduced running costs and enhanced productivity.
- 4-27 channels depending on configuration and compatible with all canister/bag types/sizes.
- Compatible with air toxics (canister or bag) in ambient air and soil gas analysis per US EPA Method TO-15 and other
- Heated internal flow paths (up to 200°C) prevent carryover and allow high and trace level samples to be analysed in 1
- Thermostated internal standard addition (1 mL loop - Inert) for optimal precision
- Fully automated control of sampling flow-rates, times and multi-channel sequencing
- Configured for electronic carrier gas control (ECC) for stabilisation of retention times
- TO-17 compatible tube desorption capability features quantitative re-collection for repeat analysis and easily upgraded
- Compatible with any GC(MS) and with all thermal desorption applications

### System includes:

- Transfer line and GC/TD cable for connection to any commercial GC or GC/MS. *N.B.* GC inlet NOT required
- U-T15ATA-2S – TO-15/TO-17 Air Toxics applications specific cold trap
- Controlling software for 32- or 64-bit Windows® compatible PC
- Pressure regulators (U-GAS01 x 2) for controlling the supply pressure of dry and carrier gases
- 2 USB to serial port cables
- 12 month warranty

### Services required:

- Electricity supply 100-240 V, 50-60 Hz, 1550 W Total
- 100 mL/min dry air or N<sub>2</sub> (50-60 psi, dewpoint < -50°C) + pure (5.0 grade or better) He or N<sub>2</sub> carrier gas (5-60 psi)

### Requires, but does not include:

- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with 32- or 64-bit Windows® and up to 3 available USB or serial ports



- Installation by a fully trained service engineer

#### **Add ons**

##### **CIA Satellite system**

Adds an 13 extra channels to T or HL CIA *Advantage* model, features and performance as described for bundles

##### **System includes**

- Transfer line for connection to HL or T system
- 1 x USB to serial port cable
- 12 month warranty

##### **Services required:**

- Electricity supply 100-240 V, 50-60 Hz, 650 W
- 100 mL/min dry air or N<sub>2</sub> (50-60 psi, dewpoint < -50°C) + pure (5.0 grade or better) He, N<sub>2</sub> or H<sub>2</sub> carrier gas (5-60

##### **Requires, but does not include:**

- CIA *Advantage* system either T or HL version, plus UNITY 2
- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with 32-bit Windows® and up to 3 available USB or serial ports
- Installation by a fully trained service engineer

\* For details of Canisters, accessories for canisters and maintenance kit contents see Markes TD consumables and acce

# Continuous inline monitoring

Twin trap thermal desorber for continuous monitoring of an air/gas stream with 100% data capture. Connects to all GC brands.

## SHORT DESCRIPTION

	LIST PRICE	PART NUMBER
TT24-7 Series 2 twin trap continuous monitoring system - manual split flow control	\$42,557.40	U-TT247-2S
TT24-7 Series 2 twin trap continuous monitoring system - mass flow controlled split	\$45,338.40	U-TT247-MFC-2S

## STARTER SYSTEM ACCESSORIES

Dual regulator (dry gas/carrier gas) pneumatics accessory	\$1,242.00	U-GAS01
Pump 115 V for unpressurised samples	\$936.00	U-ASPM1
Pump 230 V for unpressurised samples	\$936.00	U-ASPM2
Mass flow controller (MFC), for electronic control of split flows, 2-500 mL/min (He)	\$2,781.00	U-DMFC-2S
Optional nafion dryer for humid samples	\$2,309.40	U-ASDRY
Routine maintenance kit - TT24-7 Series 1 & 2 (traps to be ordered separately)	\$556.20	RMK-0005
Heated Sampling Line for TT24-7 Series 2	\$1,030.00	U-HSLTT
3.5in Tube to 4.5in Tube Conversion kit, UNITY 2 & TT24-7 Series 2, user installable	\$1,168.20	U-35TO45KT

## TT24-7 TRAPS:

Cold trap, TT24-7, for CW agents (in particular VX), each ( <i>NB</i> two required per TT24-7)	\$682.20	T-1VX
Cold trap, TT24-7, for CW agents (in particular HD), each ( <i>NB</i> two required per TT24-7)	\$682.20	T-2HD
Cold trap, TT24-7, for CW agents (in particular GB/GE analogue of VX), each ( <i>NB</i> two required per TT24-7)	\$682.20	T-3GBGE
Cold trap, TT24-7, for air toxics, each ( <i>NB</i> two required per TT24-7)	\$682.20	T-4ATX
Cold trap, TT24-7, empty for packing, each ( <i>NB</i> two required per TT24-7)	\$448.20	T-6EMP
Cold trap, TT24-7, custom packed, each ( <i>NB</i> two required per TT24-7)	\$682.20	T-7CUS
Cold trap, TT24-7, for materials emissions, each ( <i>NB</i> two required per TT24-7)	\$682.20	T-8MAT
Cold trap, TT24-7, general purpose carbon black, each ( <i>NB</i> two required per TT24-7)	\$682.20	T-9GPC
Cold trap, TT24-7, for ozone precursors, each ( <i>NB</i> two required per TT24-7)	\$682.20	T-11OP

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## FULL PRODUCT DESCRIPTION TT24-7

**TT24-7 Series 2™** twin trap thermal desorber for continuous monitoring of gas/air streams.

- Patented twin valve/trap arrangement for continuous monitoring 24 hours a day, 7 days a week
- Cryogen free - ideal for unattended remote locations
- Flexible sampling flow range (20-800 ml/min) - compatible with high flow short term sampling and low flow longer term sampling
- Flexible outlet split flow range (He 2-500 mL/min; N<sub>2</sub> 2-250 mL/min) - compatible with high and low concentration samples
- Electronic mass flow control of sampling flows ensures analytical repeatability
- Compatible with any GC(MS)

- Pre-configured for electronic carrier control (includes parts for deconfiguration if not required)

**TT24-7 includes:**

- Transfer line and GC/TD cable for connection to any commercial GC/GCMS. *NB:* GC inlet NOT required
- Controlling software suitable for 32- and 64-bit Windows® compatible PC
- 12 month warranty

**Services required:**

- Electricity supply 100-240 V, 50-60 Hz, 1200 W
- 100 mL/min dry air or N<sub>2</sub> (50-60 psi, dewpoint < -50°C) + pure (5.0 grade or better) He, N<sub>2</sub> or H<sub>2</sub> carrier gas (5-60psi)

**Requires, but does not include:**

- Two cold traps (must be ordered separately)
- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with 32- or 64-bit Windows® and 1 available USB port
- External pressure regulation (5-60psi carrier gas, 50-60psi dry air), we recommend U-GAS01 accessory
- Non-pressurised sample streams require a suitable pump, we recommend the U-ASPM1 (110 V) or U-ASPM2 (230 V)

**MARKES**  
international



# Headspace-TD

UNITY 2 thermal desorber for 3.5-inch tubes with headspace module (HS5-TD). Configured for electronic carrier gas control and connects to all GC brands.

## SHORT DESCRIPTION

UNITY 2 with HS5-TD with manual control of split and desorb flows

## LIST PRICE

\$29,998.80

## PART NUMBER

U-UNITY-41-2S

## STARTER SYSTEM ACCESSORIES

HS5-TD starter kit\*

\$1,461.60

U-HSKIT

Routine maintenance kit, HS5-TD\*

\$468.00

RMK-0008

Routine maintenance kit, UNITY 2, 3½", without cold trap\*

\$460.80

RMK-0004-2S

Calibration solution loading rig

\$583.20

C-CSLR



## FULL PRODUCT DESCRIPTION UNITY 2 with HS5-TD

**UNITY 2™ with HS5-TD** platform thermal desorber for manual headspace analysis and desorption of single sample tubes with or without RFID tags (TubeTAG

- Cryogen-free, compact unit offering compatibility with all TD applications
- Quantitative re-collection of sample for repeat analysis or data/method validation (SecureTD-Q™)
- Compatible with any GC(MS)
- Configured for electronic carrier gas control (ECC) for stabilisation of retention times
- Easily upgraded to 100-tube autosampler (see Series 2 ULTRA options in add-ons) - NOTE: ULTRA cannot be operated simultaneously with HS5-TD

### **Integrated HS5-TD module:**

- Headspace with integrated trapping/preconcentration for up to 5 thermostatted 70 mm (~20 mL volume) vials
- Optimum concentration/sensitivity enhancement by vapour transfer in one or multiple steps to focusing trap
- Manual vial selection with insertion of the (inert) sampling needle *via* a convenient, hand-operated lever mechanism

### **System includes:**

- 5 screw top headspace vials, 10 caps, 10 septa, vial extractor tool, spare needle assembly
- Transfer line and GC/TD cable for connection to any commercial GC or GC/MS. *N.B.* GC inlet NOT required
- U-T11GPC-2S – general purpose cold trap suitable for most routine applications
- Controlling software for 32- or 64-bit Windows® compatible PC
- Pressure regulators (U-GAS01) for controlling the supply pressure of dry and carrier gas
- USB to serial port cable
- 12 month warranty

### **Services required:**

- Electricity supply 100-240 V, 50-60 Hz, 650 W
- 100 mL/min dry air or N2 (50-60 psi, dewpoint < -50°C) + pure (5.0 grade or better) He, N2 or H2 carrier gas (5-60 psi)

### **Requires, but does not include:**

- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with 32- or 64-bit Windows® and an available USB or serial port

\* For details of 'starter' and maintenance kit contents see Markes TD consumables and accessories catalogue

**MARKES**  
international

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# Add-ons to existing Markes' systems (field engineer installed)

SHORT DESCRIPTION	LIST PRICE
Mass flow controller (MFC), digital, 2–500 mL/min	\$2,781.00
ISDP accessory for <b>TD-100</b> (standard and fully automated versions) with regulator (U-GAS03) for purging IS gas	\$6,683.40
"50:50" kit to upgrade <b>TD-100</b> (standard) to add automated re-collection functionality	\$5,729.40
Series 2 ULTRA autosampler for use with UNITY (series 1 or 2)	\$23,985.00
Series 2 ULTRA 50:50 autosampler for use with UNITY 1&2. Includes 50:50 automated re-collection accessory	\$29,714.40
Series 2 ULTRA autosampler for use with UNITY 1&2 with built-in Internal Standard/Dry Purge (ISDP) option	\$30,668.40
Series 2 ULTRA autosampler for use with UNITY 1&2. Includes both ISDP and 50:50 automated re-collection options	\$36,397.80
Connection kit, for adding series 2 ULTRA to a UNITY 2 already configured with Air Server 3/8	\$669.60
TD automation/ULTRA starter kit (includes 160 st st DiffLok caps)*	\$2,748.60
Air Server 3: 3-channel Air Server module for integrating with UNITY 2	\$9,549.00
Air Server 8: 8-channel Air Server module for integrating with UNITY 2	\$13,366.80
HS5-TD accessory for UNITY 2	\$9,549.00

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## FULL PRODUCT DESCRIPTION SERIES 2 ULTRA AUTOSAMPLER

**ULTRA 2™ Autosampler accessory for UNITY (series 1 and 2)** for automated operation with up to 100 sample tubes with or without RFID tags (Tuk

- Tubes are sealed while on ULTRA 2, both before and after analysis to preserve sample integrity and prevent contamination of conditioned tubes (DiffLo
- Simple, robust operation (no capping or uncapping required)
- Automated TubeTAG RFID tag read/write option pre-installed

**System includes:**

- 20 pairs of DiffLok™ analytical end caps – 20 inert coated caps (for the sampling/hot end) and 20 stainless steel caps
- ISDP option includes a pressure regulator (U-GAS03) for purging IS gas onto the sample tube
- USB to serial port cable
- 12 month warranty

**Services required:**

- Electricity supply 100-240 V, 50-60 Hz, 650 W

**Requires, but does not include:**

- UNITY thermal desorber (series 1 or 2)
- PC configured with 32- or 64-bit Windows® and an available USB or serial port

\* For details of 'starter' kit contents see Markes TD consumables and accessories catalogue

**MARKES**  
international

**PART NUMBER**

U-DMFC-2S

U-ISDPKT-TD100  
U-5050KT-TD100

U-ULTRAT-XX-2S  
U-ULTRAT-1X-2S  
U-ULTRAT-X1-2S  
U-ULTRAT-11-2S

U-UASK2-2S  
U-ULKIT

U-AIRSV3-2S  
U-AIRSV8-2S  
U-HS5TD



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# Tube conditioner

TC-20 multi-tube conditioner and dry purge unit. Used to clean or dry-purge up to 20 industry standard 3.5-inch tubes simultaneously.

## SHORT DESCRIPTION

TC-20 multi-tube conditioner and dry purge unit, 115 V  
TC-20 multi-tube conditioner and dry purge unit, 230 V  
Single regulator (high purity gas) pneumatics accessory

## LIST PRICE

\$10,884.60  
\$10,884.60  
\$954.00

## PART NUMBER

R-TC20-1  
R-TC20-2  
U-GAS03



## FULL PRODUCT DESCRIPTION TC-20

**TC-20™** Multi-Tube Conditioning/Dry Purge Unit for up to 20 industry standard ¼-inch O.D. x 3.5-inch TD tubes.

- Conditioning of tubes with gas flowing in the desorption direction
- Dry purging of tubes with gas flowing in the sampling direction at ambient / elevated temperatures
- Up to 20 independent tube positions, but reliable operation with any number of tubes fitted
- Temperature setting from ambient to 400°C in 1°C increments
- Time setting up to 99 hours in 1 minute increments
- User installable

### **TC-20 includes:**

- Charcoal filter to collect tube effluent and prevent contamination of laboratory air
- 12 month warranty

### **Services required:**

- Electricity supply 100-240 V, 50-60 Hz, 270 W
- Pure (5.0 grade or better) helium or nitrogen carrier gas – supply must be regulated at between 20-60 psi

### **Requires, but does not include:**

- High quality external gas regulation between cylinder and instrument is required. We recommend the U-GAS03 from Markes

For available range of TC-20 accessories see Markes TD consumables and accessories catalogue

**MARKES**  
international

# Micro-Chamber/Thermal Extractor ( $\mu$ -CTE )

Micro-Chamber/Thermal Extractor for testing surface and bulk emissions from products and materials using 4 or 6 inert coated micro-chambers.

## SHORT DESCRIPTION

$\mu$ -CTE 120°C, 6 inert micro-chambers (44 mL)  
 $\mu$ -CTE 120°C, 6 inert micro-chambers (44 mL) and 6 toggle valves  
 $\mu$ -CTE 250°C, 4 inert micro-chambers (114 mL)  
 $\mu$ -CTE 250°C, 4 inert micro-chambers (114 mL) and 4 toggle valves

## LIST PRICE PART NUMBER

\$18,905.40 M-CTE120I  
\$20,242.80 M-CTE120TI  
\$20,797.20 M-CTE250I  
\$23,869.80 M-CTE250TI



M-CTE120I



M-CTE250I

## STARTER SYSTEM ACCESSORIES

Start up kit for M-CTE120I  
Start up kit for M-CTE250I  
Single regulator (high purity gas) pneumatics accessory  
Routine maintenance Kit for M-CTE120I\*  
Routine maintenance Kit for M-CTE250I\*

\$5,644.80 M-STUKTI  
\$5,841.00 M-STUKT250I  
\$954.00 U-GAS03  
\$178.20 RMK-0006  
\$439.20 RMK-0006HT

## FULL PRODUCT DESCRIPTION MICRO-CHAMBER/THERMAL EXTRACTOR

$\mu$ -CTE™ provides industry with an easy-to-use quality assurance tool for testing chemical emissions from products and materials.

- Unique (patent pending) technology maintains a constant flow of air through each sample chamber
- No pump or mass flow controller is required and near ambient pressures are maintained in each test chamber
- Tests can be carried out at ambient or elevated temperatures (model dependent up to 120°C/250°C)
- Total test time (equilibration and vapour sampling), for all 4/6 samples is normally between 30 and 60 minutes
- User installable

### $\mu$ -CTE includes:

- Complete set of inert micro-chambers (sample pans)
- Complete set of inert removable lids
- Assorted O-rings for sealing tubes with various O.D. into the micro-chamber (¼" (6.4 mm), 6 mm and 4 mm 'luer')
- Assorted aluminium spacers (including sprung) for accommodating materials of varying thicknesses within the micro-chambers
- 12 month warranty

### Services required:

- Electricity supply 100-240 V, 50-60 Hz, 650 W
- Regulated supply of pure air or carrier gas settable 5-60 psi

### Requires, but does not include:

- High quality external gas regulation between cylinder and instrument is required. We recommend the U-GAS03 from Markes
- Conditioned sorbent tubes or DNPH cartridges

### START UP KITS M-STUKTI (& M-STUKT250I) INCLUDE:

- 6 (4) inert coated sample pans, each with a detachable sample lid
- 6 (4) tube interface caps
- 6 (4) adjustable depth sprung spacers
- 24 x 1.5 mm depth aluminium spacer discs
- 6 (12) x 5 mm depth aluminium collar spacers
- 6 (8) x 15 mm depth aluminium collar spacers
- 6 (4) liquid sample inserts (PTFE)
- 1 routine maintenance kit (selection of o-rings)
- 20 (10) stainless steel Tenax TA tubes, conditioned/capped
- 1 CapLok tool

\* For details of maintenance kit contents see Markes TD consumables and accessories catalogue

**MARKES**

## Thermal desorption for 4.5-inch tubes

UNITY 2 thermal desorber for 4.5-inch x 6 mm O.D. tubes\* configured for electronic carrier gas control. Connects to all GC brands.

### SHORT DESCRIPTION

	LIST PRICE
UNITY 2 for 4.5-inch x 6 mm O.D. tubes with manual control of split and desorb flows	\$23,985.00
UNITY 2 for 4.5-inch x 6 mm O.D. tubes with electronic control of split and desorb flows	\$29,714.40
ULTRA 2 (4.5-inch x 6 mm O.D. tube) autosampler for use with 4.5-inch UNITY 2	\$23,985.00
ULTRA 2 (4.5-inch x 6 mm O.D. tube) autosampler for use with 4.5-inch UNITY 2 with Internal Standard/Dry Purge (ISDP)	\$30,668.40

### STARTER SYSTEM ACCESSORIES

Dual regulator (dry gas/carrier gas) pneumatics accessory	\$1,242.00
Calibration solution loading rig	\$583.20
4.5-inch tube version ULTRA 2 starter kit. Contains 80 stst and 80 Silcosteel DiffLok caps for tubes with 6 mm O.D. ends**	\$4,244.40
Routine maintenance kit, UNITY 2, 4.5-inch, without cold trap**	\$460.80

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### FULL PRODUCT DESCRIPTION UNITY 2 (4.5-inch tube version)

**UNITY 2™** platform thermal desorber for single 4.5-inch (6mm O.D. at ends) sample tubes with or without RFID tags (TubeTAG™).

- Cryogen-free, compact unit offering compatibility with all TD applications
- Quantitative re-collection of sample for repeat analysis or data/method validation (SecureTD-Q™)
- Compatible with any GC(MS) and offers a versatile upgrade path for tube automation
- Configured for electronic carrier gas control (ECC) for stabilisation of retention times

#### UNITY 2 includes:

- Transfer line and GC/TD cable for connection to any commercial GC/GCMS. *NB:* GC inlet NOT required
- U-T10CW-2S cold trap for CW agents
- Controlling software for 32- or 64-bit Windows® compatible PC
- USB to serial port cable
- 12 month warranty

#### Services required:

- Electricity supply 100-240 V, 50-60 Hz, 650 W
- 100 ml/min dry air or N<sub>2</sub> (50-60 psi, dewpoint < -50°C) + pure (5.0 grade or better) He, N<sub>2</sub> or H<sub>2</sub> carrier gas (settable 5-60psi)

#### Requires, but does not include:

- Appropriately configured GC(MS) or alternative analyser with associated data handling
- PC configured with 32- or 64-bit Windows® and an available USB or serial port
- External pressure regulation for the supply of carrier gas and dry air (5-60psi carrier gas, 50-60psi dry air). We recommend the U-GAS01 accessory

\*NOTE: Other tube dimensions may be accommodated e.g. 4.5" x ¼-inch O.D., 4.5" x 8 mm O.D. and 4.5" x 10 mm O.D. with 6 mm O.D. at ends.  
Please contact Markes directly for further details.

\*\* For details of 'starter' kit and maintenance kit contents see Markes TD consumables and accessories catalogue

**MARKES**  
international

**PART NUMBER**

U-UNITY-XX-XZ  
U-UNITY-XX-MFC-XZ  
U-ULTRA-XX-XZ  
U-ULTRA-X1-XZ

U-GAS01  
C-CSLR  
U-ULKIT-XZ  
RMK-0004-XZ

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 www.metone.com

## AIR SAMPLERS & MONITORS

EFFECTIVE 6/9/2017

### AIR MONITORS

212-1	8 CHANNEL SHEATH AIR PROFILER 0.5 - 10 MICRON	\$3,795.00
212-2	8 CHANNEL SHEATH AIR PROFILER 0.3 - 10 MICRON	\$3,795.00
ES-642	REMOTE PARTICULATE MONITOR	\$2,600.00
E-SAMPLER	DUAL AMBIENT PARTICULATE MONITOR/SAMPLER	\$5,295.00
NPM SENSOR CDMA		
NPM SENSOR GSM		
NPM SENSOR SERIAL	NPM SENSOR RS232/RS485	\$1,995.00

### AIR SAMPLERS

E-FRM-120	REFERENCE AIR SAMPLER, 120V PUMP	\$7,800.00
E-FRM-220	REFERENCE AIR SAMPLER, 220V PUMP	\$7,800.00
SASS-120	SPECIATION SAMPLER, SINGLE EVENT, 5 CHANNEL	\$12,995.00
SASS-220	SPECIATION SAMPLER, SINGLE EVENT, 5 CHANNEL	\$12,995.00
S/SASS-120	SUPER SASS SEQUENTIAL SPECIATION SAMPLER, 8 CHANNEL	\$14,995.00
S/SASS-220	SUPER SASS SEQUENTIAL SPECIATION SAMPLER, 8 CHANNEL	\$14,995.00

### BETA GAUGES

BAM 1020	BETA-ATTENUATION MASS MONITOR	\$14,650.00
BAM 1022-120	BETA ATTENUATION PARTICULATE MONITOR, PM2.5	\$18,950.00
BAM 1022-220	BETA ATTENUATION PARTICULATE MONITOR, PM2.5	\$18,950.00
E-BAM	PORTABLE ENVIRONMENTAL BETA-ATTENUATION MASS MONITOR	\$10,500.00
E-BAM PLUS-120	E-BAM PM 10 W/ EXTERNAL PUMP (110-120 VAC)	\$11,950.00
E-BAM PLUS-220	E-BAM PM 10 W/ EXTERNAL PUMP (220-240 VAC)	\$11,950.00

### BAM ACCESSORIES

BX-10	ACCESSORIES FOR PM10 - BAM 1020	\$4,185.00
BX-10 UK	PM10 SAMPLING ACCESSORY KIT, WITHOUT INLET HEATER	\$3,885.00
BX-2.5	ACCESSORIES FOR PM2.5 (NON-FEM) - BAM 1020	\$4,995.00
BX-FEM 2.5A	ACCESSORIES FOR FEM PM 2.5 - BGI VSCC	\$6,590.00
BX-FEM 2.5B	ACCESSORIES FOR FEM PM 2.5B -URG	\$6,590.00
BX-TSP-120	ACCESSORIES FOR TSP - BAM 1020 (110-120 VAC)	\$2,890.00
BX-TSP-220	ACCESSORIES FOR TSP - BAM 1020 (220-240 VAC)	\$2,890.00
BX-COARSE-120	ACCESSORIES FOR FEM PM COARSE - BAM-1020 (110-120 VAC)	\$11,800.00
BX-COARSE-220	ACCESSORIES FOR FEM PM COARSE - BAM-1020 (220-240 VAC)	\$11,800.00
BX-2.5EU	EUROPEAN PM2.5 SAMPLING KIT - BAM-1020	\$6,725.00
BX-10EU	BAM 1020 PM10 EU ACCESSORY KIT	\$4,995.00
BX-100	POWER SUPPLY, 100 VAC, 60 Hz	\$350.00
BX-115	POWER SUPPLY, 115 VAC, 60 Hz	\$260.00
BX-116	POWER SUPPLY, 115 VAC, 50 Hz	\$575.00
BX-230	POWER SUPPLY, 230 VAC, 60 Hz	\$435.00
BX-231	POWER SUPPLY, 230 VAC, 50 Hz	\$435.00
BX-121	PUMP, GAST 115 VAC ±10%, 50/60Hz	\$750.00
BX-122	PUMP, GAST 220/230 VAC ±10%, 50/60Hz	\$750.00
BX-126	PUMP, MEDO 115VAC ±10%, 60Hz	\$845.00
BX-895	REAL TIME MODULE (RTM) LIGHT SCATTER MASS TRENDING	\$2,850.00
BX-902B-120	WEATHERPROOF ENCLOSURE FOR BAM-1020 - 120V	\$3,700.00
BX-902B-220	WEATHERPROOF ENCLOSURE FOR BAM-1020 - 220V	\$3,800.00

Prices subject to change without notice. Printed on 6/9/2017



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## AIR SAMPLERS & MONITORS

EFFECTIVE 6/9/2017

BX-902B-AC-120	WEATHERPROOF ENCLOSURE FOR BAM 1020, AIR COND., 120V	\$5,975.00
BX-902B-AC-220	WEATHERPROOF ENCLOSURE FOR BAM 1020, AIR COND., 220V	\$5,975.00
BX-903-120	OUTDOOR ENCLOSURE W/ HEATER, TEMP CONTROL & A/C 120V	\$6,300.00
BX-903-220	OUTDOOR ENCLOSURE W/ HEATER, TEMP CONTROL & A/C 220V	\$6,950.00
BX-904-120	OUTDOOR ENCLOSURE W/ HEATER - 4000 BTU A/C 120V	\$6,950.00
BX-906-120	OUTDOOR ENCL., DOUBLE-WIDE W/ HEATER & A/C 120V	\$9,350.00
BX-906-220	OUTDOOR ENCL., DOUBLE-WIDE W/ HEATER & A/C 220V	\$9,500.00
BX-906C-120	DOUBLE-WIDE OUTDOOR ENCLOSURE W/HEATER, TEMP CONTROL AND A/C 120V,	\$13,225.00
BX-907-120	OUTDOOR ENCLOSURE, NO AIR CONDITIONER, VENT FAN ONLY	\$5,260.00
BX-964	MET TRANSLATOR OPTION	\$975.00
BX-967	AUTOMATIC SPAN MEMBRANE ASSEMBLY	\$975.00
BX-970	BAM-1020 TOUCH SCREEN DISPLAY OPTION	\$550.00

# BAM-1020 BETA MASS MONITOR

## SERVICE MAINTENANCE, REPAIR, SPARE PARTS

Met One Instruments, Inc.; 1600 NW Washington Blvd.; Grants Pass, OR. 97526  
Ph. 541-471-7111; Fax 541-471-7116; E-mail: service@metone.com

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### BASIC SERVICE(S)

ORDER #	DESCRIPTION	LIST PRICE
SVC8001	FULL DYNAMIC CALIBRATION, BAM-1020 <i>* New Calibration Certificate issued for government agency satisfaction</i>	\$ 575.00

*When ordering parts for BAM-1020, Please specify Serial Number and Firmware Version on order.  
Note: Firmware Version is displayed on Main Screen of BAM-1020 Display.*

### CONSUMABLES

PART #	DESCRIPTION	LIST PRICE
460180	BAM FILTER TAPE (2 1/2 MONTH OPERATION PER TAPE)	\$ 55.00
720069	REPLACEMENT O-RING, BAM INTAKE HEAD	\$ 2.50
8965	REPLACEMENT O-RINGS, BX-802, PM-10 HEAD	\$ 15.00
720097	REPLACEMENT O-RINGS, BX-807 PM2.5 HEAD	\$ 25.00
720105	REPLACEMENT O-RINGS, BX-808 VSCC	\$ 25.00
720228	REPLACEMENT O-RINGS, BX-809 SCC	\$ 25.00
720066	NOZZLE O-RING, .549 ID X .755OD X .103 W	\$ 1.00
580291	FILTER ASSY., BAM-1020 INTERNAL, (COMPLETE ASSY)	\$ 35.00
580292	FILTER ELEMENT, INTERNAL DEBRIS FILTER	\$ 10.00
9122	BAM INLET O-RING KIT	\$ 15.00
590811	FUSE, 3.15A, SLO-BLO (5X20MM)	\$ 3.00
8150	CORE TUBE, FILTER TAPE, BAM 1020, E-BAM PLUS	\$ 7.50
390044	3 VOLT COIN STYLE BATTERY	\$ 2.00

### FIELD REPLACEABLE PARTS

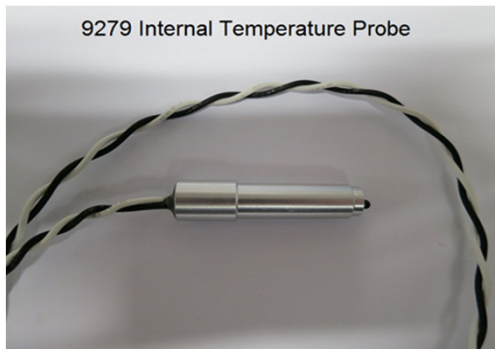
2443	RS232 CABLE DB9F to DB9F, NULL MODEM	\$ 50.00
8069	ASSY, REFERENCE MEMBRANE	\$ 150.00
80129	REF MEMBRANE MECHANISM ASSY	\$ 350.00
9278	INTERNAL RH SENSOR FOR SMART HEATER	\$ 125.00
580331	REPLACEMENT WATER COLLECTION JAR FOR PM-10 HEAD	\$ 25.00
BX-961	MASS FLOW CONTROL	\$ 670.00
9304	BOARD STACK ASSY, BAM-1020	\$ 1,000.00
9628	BAM COMPLETE DOOR ASSEMBLY	\$ 665.00
80315	POWER SUPPLY MODULE, W/HARNESS, BAM 1020	\$ 175.00
80324	FLOW SENSOR, BAM 1020, 20SLPM	\$ 250.00
80355	NOZZLE REBUILD KIT - Incl. Adj. Shims	\$ 150.00
80679	BAM 1020 REAR PANEL ASSEMBLY	\$ 450.00
BX-592	OUTSIDE TEMP SENSOR, VOLUMETRIC FLOW	\$ 485.00
BX-596	AMBIENT TEMP/BARO COMBO SENSOR	\$ 1,310.00
BX-597	AMBIENT TEMP/RH/BARO COMBO SENSOR	\$ 1,310.00



**FIELD REPLACEABLE PARTS - Continued**

* 9279	INTERNAL TEMP SENSOR FOR SMART HEATER	\$	125.00
* 81493	INTERNAL TEMP SENSOR, BAM 1020	\$	125.00
8105-2	GEAR MOTOR 3.75 RPM MODIFIED	\$	155.00
8106-1	GEAR MOTOR, 10 RPM, MODIFIED	\$	165.00
3110-1	MOTOR DRIVER CIRCUIT BOARD, BAM 1020 V2.	\$	420.00
8119	ASSY, PIPE SEAL (ATTACHES TO 8120 FOR ROOF SEAL)	\$	54.00
8120	ROOF TOP FLANGE (WELDMENT)	\$	79.00
8497	SPOOL COVER ASSY with KNOB, BAM 1020	\$	25.00
3150-1	PREAMP CIRCUIT BOARD, CURRENT, BAM V2.	\$	650.00
81218	PHOTO SENSOR, BAM 1020 (ALL EXCEPT CAPSTAN)	\$	5.00
81219	PHOTO SENSOR, CAPSTAN, BAM 1020	\$	25.00
81120	SMART HEATER ELEMENT REPLACEMENT 120V	\$	450.00
81121	SMART HEATER ELEMENT REPLACEMENT 220V	\$	450.00
9123-1	HEATER INSULATION, (BX-827, BX-830)	\$	45.00

\* 9279 used before BAM S/N P22784. For P22784 or Later, use 81493



**SERVICE MAINTENANCE TOOLS**

BX-302	ZERO CALIBRATOR, WITH ADAPTERS	\$	360.00
460134	REPLACEMENT 0.2 Micron FILTER FOR BX-302	\$	180.00
BX-305	INLET ADAPTOR FOR FLOW CALIBRATION	\$	75.00
BX-307	VOLUMETRIC FLOW CALIBRATION KIT	\$	3,200.00
BX-308	SERVICE TOOL KIT	\$	95.00
BX-308-1	SERVICE TOOL KIT / DISTRIBUTOR	\$	240.00
BX-310	NOZZLE ADJUSTMENT SHIMS	\$	55.00
995217	APPLICATOR, COTTON TIPPED (6" WOOD STEM/100PK)	\$	5.00
995712	GREASE, O-RING, DIELECTRIC SILICONE, 5 GRAM PACKETS	\$	1.50
BX-344	PM10 INLET CLEANING KIT	\$	80.00

**PUMP MAINTENANCE**



**GAST PUMP**

BX-121	PUMP, GAST, 115 VAC ±10%, 50/60 hz	\$	750.00
BX-122	PUMP, GAST, 220 VAC ±10%, 50 hz	\$	750.00
680828	BAM PUMP SERVICE KIT, GAST, USED ON BX-121, 122, 131, 132	\$	110.00
680868	FILTER/MUFFLER, GAST PUMP (AK840A)	\$	25.00
680854	END CAP ASSY, GAST PUMP (AK526)	\$	15.00
680870	FOOT SUPPORT, GAST PUMP (AC136)	\$	50.00
BX-139-1	PUMP CONTROLLER GAST	\$	175.00



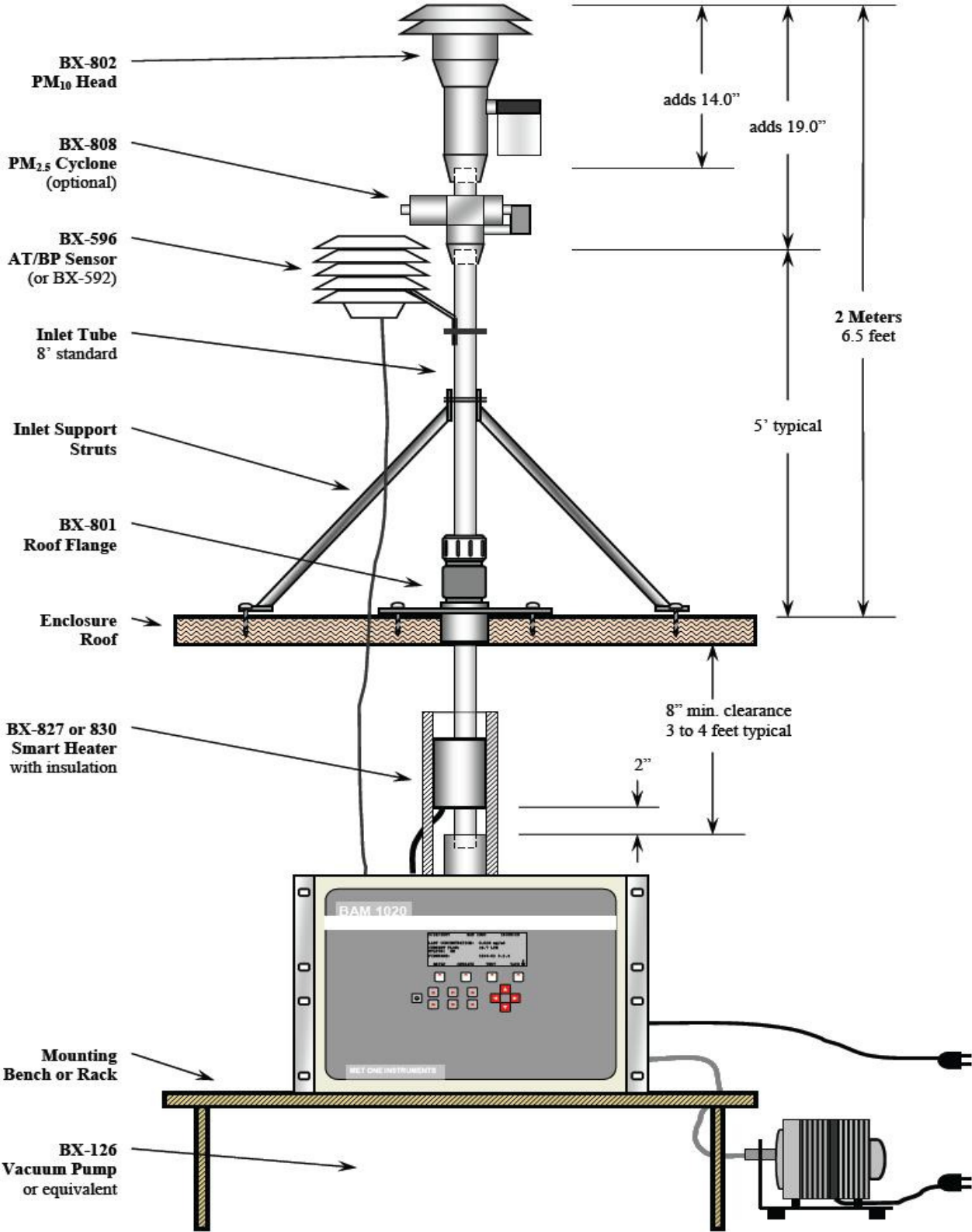
**MEDO PUMP**

BX-126	PUMP 115 VAC ±10%, 60 hz, MEDO	\$	845.00
580293	MUFFLER, PUMP-BY-PASS, for MEDO Pump	\$	5.00
8588	PUMP SERVICE KIT, MEDO PUMP	\$	35.00
680839	PUMP REBUILD KIT, MEDO PUMP	\$	170.00
BX-139	PUMP CONTROLLER MEDO	\$	125.00
960025	PUMP TUBING, POLY., 10mm X 6.5mm ID (Price per/ft)	\$	1.00

**PERIODIC MAINTENANCE**

<b>Monthly</b>	Nozzle and Vane Cleaning*
	Leak Check*
	Flow Rate Verification
	Clean Capstan Shaft and Pinch Roller Tires*
	Clean PM10 Head
	Clean PM2.5 Inlet
	Check Error Log*
	Download Digital Data Log*
	Compare BAM-1020 Data to External Datalogger Data (if used)
<b>2 Months</b>	Replace Filter Tape
	Run SELF-TEST Function
	Full Flow Audit and Calibration
	Verify BAM-1020 Settings
	Set Real-Time Clock
<b>6 months</b>	Replace or Clean Pump Muffler (if used)
	Test Pump Capacity
	Test Filter RH and Filter Temperature sensors
	Test Smart Heater
<b>Annual</b>	Perform 72 hour BKGD (BX-302 zero filter) test
	Clean Internal Debris Filter
	Check Membrane Span Foil
	Beta Detector Count Rate and Dark Count Test
	Clean Inlet Tube
	Test Analog DAC Output (if used)
<b>2 Year</b>	Rebuild Vacuum Pump*
	Replace Nozzle O-ring (Special tools required)
	Replace Pump Tubing

**TYPICAL INSTALLATION**



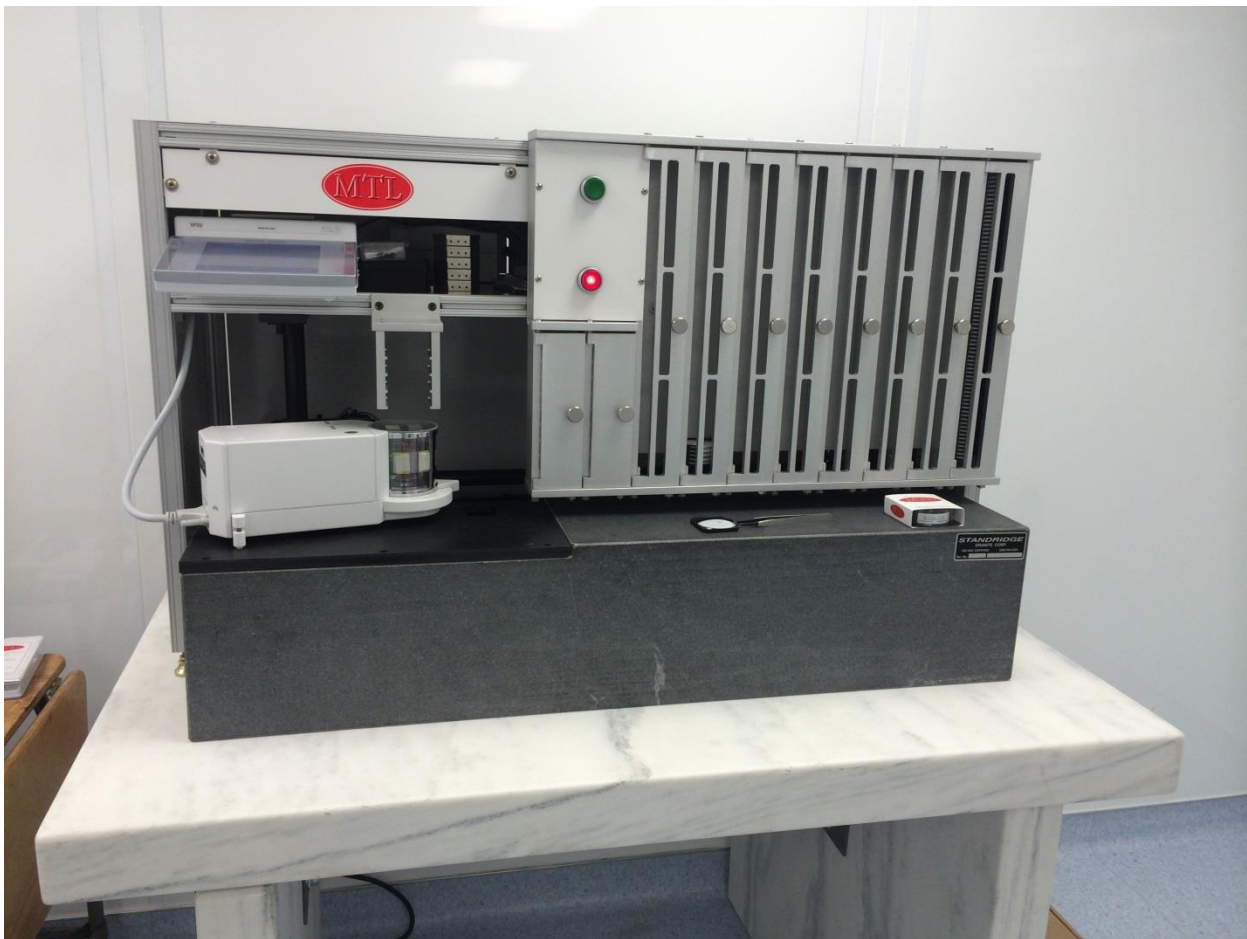




Measurement Technologies Laboratories, LLC | [www.mtlcorp.com](http://www.mtlcorp.com)  
10850 Nesbitt Avenue South, Minneapolis, MN 55437  
Phone: 1-952-888-0762  
Fax: 1-952-881-2236  
Email: [sales@mtlcorp.com](mailto:sales@mtlcorp.com)

### Introduction

The MTL Autohandler, Model AH-225-6, appears in the photo below.



It will be supplied with the following items:

- Windows-based PC with Windows 7, minimum 21" monitor
- Seven vertical silos for loading and unloading of filters
- Two garage stations for housing lab blanks and metal standards
- Hand held bar code reader (and stand) for use in lab
- Vaisala HMT330 for measuring temperature and relative humidity
- 200 black carriers in which filters are placed, numbered 001 - 200
- Two NIST-traceable metal standards, 350mg and 420mg, for QC measures – other standard weights available upon request

## **AH-225 System Specifications**

### General

- Power: 110-240 VAC @ 50/60 Hz
- Dimensions: 42" W x 25" D x 26" H (1067mm x 635mm x 635mm)
- Weighing repeatability
  - calibration weight:  $\leq 1\mu\text{g}$  standard deviation on 10 repetitive weighings
  - filter repeatability:  $\leq 3\mu\text{g}$  standard deviation on 10 repetitive weighings
- Weighing Time per Filter:
  - Approx. 2 min. on one weighing with a direct read method
  - Approx. 3 min. on one weighing with an A-B-A drift correction
  - Approx. 7 min. on a triplicate weighing using A-B-A drift correction
- Electrostatic Discharge Method:
  - Polonium 210  $\alpha$ -particle emission built into weighing chamber
  - Optional Faraday cage for superior control of static
- Data stored to MS SQL database

### Weighing Methods

- Direct read method tares balance and records data after receiving a stable reading
- ABA drift corrected method corrects for the balance's tendency to drift over time

### Environmental Monitoring

- Real-time monitoring of temperature and relative humidity with time stamps of data on all weighings
- NIST-traceability of measurements and graphical display of historical data

### Quality Assurance

- Daily automated balance calibration
- Daily balance repeatability check (for Mettler-Toledo balances only)
- Incorporation of lab blanks with control charting
- Incorporation of systematic weighing of metal laboratory standards to provide a check against systemic error
- Environmental monitoring with historical and control charting; administrator-level ability to stop weighing when environment is out of tolerance

### Delivery, Warranty, Ongoing Service

- Product warranty extends one year from date of commissioning
- Delivery schedule typically eight weeks from receipt of purchase order
- Calibration of measurement equipment (e.g. Vaisala and balance) not included in warranty

A Note on Guaranteeing Results

Precision weighing at sub-microgram levels requires proper hardware, proper weighing methods, and a proper environment. The Autohandler and microbalance handle the first two of these requirements. However, MTL cannot warrant that an Autohandler will meet the aforementioned repeatability specifications in a weighing environment that MTL did not create. The client is welcome to travel to Minneapolis and witness a prove-out of the exact unit that it has ordered in MTL's laboratory. But if the client's weighing environment was not engineered by MTL, then we warrant only that the product will work in a proper environment, not in the end client's specific environment.

Microbalance

For six place weighing, MTL is pleased to offer the Mettler Toledo XP6 microbalance. The XP6 has a 6g capacity, 1µg resolution, and 0.8µg repeatability. It is the successor to the older MX5 model. If you prefer to retain your older MX5 and use it with the new MTL Autohandler, that is also possible. The new MTL system is backwards compatible with the MX series of Mettler Toledo equipment, including the MX5 and UMX2.

Pricing and Delivery

The MTL AH225-6 is offered at a price of \$97,290. If you wish to add a new microbalance as well, we offer the Mettler Toledo XP6 at a price of \$24,900. An MTL engineer will be onsite to install your AH225-6 as well as your Mettler Toledo XP6 Balance. If you have any questions about your installation visit or would like an additional service items, please email [smoore@mtlcorp.com](mailto:smoore@mtlcorp.com) or [kkao@mtlcorp.com](mailto:kkao@mtlcorp.com).

Salesperson	Job	Shipping Method	Shipping Terms	Effective Date	Payment Terms	Due Date
Kimmie Kao	Autohandler Quote	FDX	N/A	N/A		Invoice

Qty	Item #	Description	Unit Price	Line Total
1	AH225-6	MTL Autohandler, Model AH225-6	\$102,900.00	\$102,900.00
1	XP6	Mettler Toledo XP6 Balance (optional)	\$26,050.00	\$26,050.00
1	IAH225-6	System installation of AH225-6, training and prove out	\$7,300.00	\$7,300.00
1	SHIP	Shipping and handling	\$250.00	\$250.00
			<b>Subtotal</b>	
			<b>Total</b>	<b>\$136,500.00 (options included)</b>





**STEP ION MOBILITY SPECTROMETERS:**

**Part #IMS-25R: \$35,000.00**

STEP Ion Mobility Spectrometer for ambient air, process gas or continuous stack gas monitoring: Specific compounds to be calibrated to be determined at time of quotation.

- Available compounds: Total Acids, HF, H<sub>2</sub>S, SO<sub>x</sub>, TDI, SO<sub>2</sub>, HCl, Cl<sub>2</sub>, Br, additional compounds available, contact STEP Analytics for assistance.
- Range varies and is adjustable according to compound/customer requirements
- Rack-mounted enclosure, 482.7mm L x 434.5mm W x 138.45mm H (19" L x 17.2" W x 5.5" H)
- Operating range, 0-50 degrees C (32-122 degrees F)
- Weight, 10.5kg (23.2lbs)
- Classification: Rated for General Purpose, 19" rack-mounted
- Data Output (front panel):
  - Integrated touchscreen graphic display
  - USB interface, Dual: (front panel)
- Connectors (back panel):
  - Fault alarm
  - Trigger in
  - 4-20mA (analog)
  - Modbus RTU/ASCII/TCP/IP
  - OPC UA/DA
  - RS-232/485 and Ethernet
- Power, 110-220 VAC 50-60Hz
- 1 year factory warranty

**Part #GCIMS-25R: \$40,000.00**

STEP Ion Mobility Spectrometer with integrated Gas Chromatography for continuous airborne contamination monitoring: Specific compounds to be calibrated to be determined at time of quotation.

Available compounds: Total Amines, DCM, CMME, BCME, NMP, PSA, NH<sub>3</sub>, DEA, TEA, BA; additional compounds available, contact STEP Analytics for assistance.

- Range varies and is adjustable according to compound/customer requirements
- Rack-mounted enclosure, 482.7mm L x 434.5mm W x 180mm H (19" L x 17.2" W x 7" H)
- Operating range, 0-50 degrees C (32-122 degrees F)
- Weight, 10.5kg (23.2lbs)
- Classification: Rated for General Purpose, 19" rack-mounted
- Data Output (front panel):
  - Integrated touchscreen graphic display
  - USB interface, dual; (front panel)
- Connectors (back panel):
  - Fault alarm
  - Trigger in
  - 4-20mA (analog)
  - Modbus RTU/ASCII/TCP/IP
  - OPC UA/DA
  - RS-232/485 and Ethernet
- Power, 110-220 VAC 50-60Hz
- 1 year factory warranty

**Part #IMS-25R Dual Mode: \$48,000.00**

STEP Ion Mobility Spectrometer for Dual-mode ambient air, process gas or continuous stack gas monitoring:  
Specific compounds to be calibrated to be determined at time of quotation.

- Available compounds: Up to 5 compounds each in Positive and Negative mode in the 1-100 ppb range.
- Range varies and is adjustable according to compound/customer requirements
- Rack-mounted enclosure, 482.7mm L x 434.5mm W x 138.45mm H (19" L x 17.2" W x 5.5" H)
- Operating range, 0-50 degrees C (32-122 degrees F)
- Weight, 10.5kg (23.2lbs)
- Classification: Rated for General Purpose, 19" rack-mounted
- Data Output (front panel):
  - Integrated touchscreen graphic display
  - USB interface, dual; (front panel)
- Connectors (back panel):
  - Fault alarm
  - Trigger in
  - 4-20mA (analog)
  - Modbus RTU/ASCII/TCP/IP
  - OPC UA/DA
  - RS-232/485 and Ethernet
- Power, 110-220 VAC 50-60Hz
- 1 year factory warranty

**STEP UV-IONIZATION MONITORS:**

**Part #GC-UVM-25R: \$25,775.00**

STEP UV-Ionization Monitor with integrated Gas Chromatography for ambient air, process gas or continuous ambient air monitoring: Specific compounds to be calibrated to be determined at time of quotation.

- Available compounds: additional compounds available, contact STEP Analytics for assistance.
- Range varies and is adjustable according to compound/customer requirements
- Sample time is approximately 2 minutes
- Rack-mounted enclosure, 19" L x 17.2" W x 5.5" H)
- Operating range, 0-100° C (32-122° F)
- Weight, 10.5kg (23.2lbs)
- Classification: Rated for General Purpose
- Data Output (front panel):
  - Integrated touchscreen graphic display
- USB interface, dual; (front panel)
- Connectors (back panel):
  - Fault alarm
  - Trigger in
  - 4-20mA (analog)
  - OPC UA/DA
  - RS-232/485 and Ethernet
- Power, 110-220 VAC 50-60Hz
- 1 year factory warranty

**Part #GC-UVM-25M: \$23,360.00**

STEP Mobile, Battery-Operated UV-Ionization Monitor with integrated Gas Chromatography for continuous process gas or ambient air monitoring: Specific compounds to be calibrated to be determined at time of quotation.

- Available compounds: additional compounds available, contact STEP Analytics for assistance.
- Range varies and is adjustable according to compound/customer requirements
- Sample time is approximately 2 minutes
  - Mobile enclosure, 480 mm x 130 mm x 350 mm (18.8" x 5.1" x 13.8")
  - Operating range, 0-100° C (32-122° F)
- Weight, 8kg (17.7lbs)
- Lithium-Ion Battery, mobile operation up to 5 hours
- Classification: Rated for General Purpose
- Data Output:
  - Integrated touchscreen graphic display
  - USB interface, dual; (front panel)
  - RS-232/485 and Ethernet
- Mouse & keyboard
- Power, 110-220 VAC
- Supplied in transport case
- 1 year factory warranty

**ADDITIONAL SYSTEM COMPONENTS:**

**Part #8000P: \$12,5000.00**

Series 8000P Permeation Gas Generator, dual oven:

- 19" rack-mounted enclosure, 19" L x 15" W x 7" H)
- Uses disposable LFH or ULED type trace source permeation tubes
- 30-150° C oven standard
- Dilution flow +/- 1% Full Scale Accuracy
- High Precision Mass Flow Controllers
- Calibrated to ISO 17025 Laboratory Certification

**Part #ADS-25R: \$12,425.00**

Air Dilution System:

- Dilution Factor; adjustable from 1:1-1:100
- Power Supply: 110-230VAC
- 19" Rack-Mounted System
- Flow regulated by Mass Flow Controllers

**Part #Nox-Gen-25R: \$6,200.00**

**Custom Sampler for Chlorine Mixed Chamber Monitoring:**

- Thermal reactor for converting NO<sub>2</sub>-NO, adjustable temperature control
- PermaPure Dryer for removing moisture
- Teflon Brushless DC Sample Pump
- Temperature and flow-controlled sampling system
- Custom designed enclosure

**Multi-Point Sampling System: Part # RVMPSS-XX** (XX indicating number of sample positions.) **Rotary Valve Sampling Systems** available from 10-45 ports, Pricing Varies with sampling positions, see below

**Base with choice of Valve Unit:**

- Base Unit:
  - Complete Windows workstation for system control
  - HMIS Software with touch screen interface
  - MODBUS Communication software
  - Ethernet/IP Output
  - Valve Unit: 10 sampling positions (Rotary Valve)
  - Enclosure (coating)

**Valve Unit options**

10 Ports	\$28,500.00
18 Ports	\$39,300.00
27 Ports	\$53,700.00
36 Ports	\$66,600.00
45 Ports	\$77,200.00

**Multi-Point Sampling System: Part # SVMPS-XX** (XX indicating number of sample positions.) **Solenoid Valve Sampling Systems** available from 4-32 ports, Pricing Varies with sampling positions, see below

**Base with choice of Valve Unit**

- Base Unit:
  - Complete Windows workstation for system control
  - HMIS Software with touch screen interface
  - MODBUS Communication software
  - Ethernet/IP Output
  - Valve Unit: 10 sampling positions (Rotary Valve)
  - Enclosure (coating)
  - 4-20 mA Output (optional)

Valve Unit options

8 Ports:	\$26,500.00
16 Ports	\$38,500.00
24 Ports	\$52,900.00
32 Ports	\$65,800.00

**Multi-Point Sampling System: Part # SVM PSS-4** (XX indicating number of sample positions.)

Solenoid Valve Sampling Systems available 4 ports, \$12,600.00

Base with choice of Valve Unit

- Base Unit:
  - Complete Windows workstation for system control
  - HMIS Software with touch screen interface
  - MODBUS Communication software
  - Ethernet/IP Output
  - 19" rack or glass Fiber enclosure Enclosure
  - 4-20 mA Output (optional)

General Multi sampler options

Stainless Steel enclosure	\$4,100.00
Modbus Output	\$3,900.00
Ethernet output	\$4,100.00
Use of normal PC+19" TFT/LCD (for use on the SCADA system:	\$-1,000.00

Part #SSwP-115V: \$640.00

Sample System, including pump:

Dimensions: 18.5"x18.5"x13"

Weight: 2.3 lbs/1 kg

Flow: adjustable from 200-1500 cc/min

Power, 115V/60Jz, 24W, 0.3A

Part #ADDCOM-IMS: \$800.00 per compound

Additional Compounds for IMS device

Part #ADDCOM-GC-IMS: \$800.00 per compound

Additional Compounds for GC-IMS device

**SPARE PARTS & CONSUMABLES:**

Power Cord: Part #71535K42: \$10.00

- 18 gauge wire
- Length: 3'

Part #DeviceCase: \$650.00

Custom designed case for device transport

IMS Controller	\$1,700	
IMS 19" Power Supply	\$1,200	
IMS 19" back wiring	\$950	
IMS 19" In OUT	\$525	
IMS 19" temperature module	\$1,300	
IMS 19" switching stages	\$1,600	
IMS 19" high voltage	\$2,400	
Current Loop	\$1,850	
Minicomputer	\$2,900	
SSD	\$325	
19" detector insert	\$10,725	
IMS HT Detector without amplifier	\$5,000	
Valve	\$250	
PCB Locker Red	\$10	
IMS 19" Housing	\$1,900	<b><u>SERVI</u></b>
Set of Hinges for Folding Front Panel	\$35	<b><u>CE:</u></b>
PFA Fitting Nut and Sealing Rings for 1/4" Tubes \$25		<b><u>Calibr</u></b>
		<b><u>ation</u></b>
		<b><u>Servic</u></b>
		<b><u>e:</u></b>
		<b>\$2,10</b>
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Recommended For Annual Maintenance:

Part #IMS-DGP: STEP-IMS Rotary Slide Drift Gas Pump:

- 6 VDS 0.09-0.3A
- Includes hermetic seal & leakage test
- 2.6 liters per minute volume flow
- Max 0.1 bar over pressure

Part #IMS-MP6V: STEP GC-IMS Membrane Pump

- DC-B 6V
- MPU3395-NMP015

IMS Filter/Scrubber

g report & calibration certificate for one compound

Span calibration available for additional compounds at \$450.00 per compound

Report Services: Varies

Measurements & reports for designated area at customer facility:

- On-site testing/measurements as designated by customer
  - Service period covers approximately 2-3 days, dependent upon customer requirements
  - Pricing includes measurement and testing report
  - Travel costs are not included in pricing and will be based up customer location
- Report Service-IMS: \$3,500.00  
Calibrated IMS-25R owned by STEP Analytics USA will be used for testing/measurements
- Report Service-GC-IMS: \$4,000.00  
Calibrated GC-IMS-25R owned by STEP Analytics USA will be used for testing/measurements
- Report Service-PID: \$2,600.00  
Calibrated GC-PID25R owned by STEP Analytics USA will be used for testing/measurements

Disposal Service: \$800.00

Disassemble unwanted device, recycle Tritium source, properly dispose of remaining components.  
Pricing includes disposal certification.

Repair Labor: \$135.00 per hour

Minimum labor service charge is one hour

Shipping & Handling: Varies

Starts at \$150.00/unit for first device  
Starts at \$50.00/order for all spare parts orders

STEP Analytics USA, Inc. proudly offers KIN-TEK:



**KIN-TEK**

**World Leader in Low Concentration Gas Standards™**

STEP Analytics is proud to be able to act as a reseller for the KIN-TEK Product line to allow us to provide to our customers complete monitoring systems and packages.

For over 40 years, **KIN-TEK** has specialized in:

- Trace concentration (ppm, ppb, and ppt) gas mixtures
- Disposable, refillable and diffusion permeation tubes for over 500 chemicals



- Wide array of gas standards generators for solving many real-world applications. Please go to “<http://www.kin-tek.com/abgasst.html>” to view the KIN-TEK products on their website.

## Chemical List

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KIN-TEK makes several types of Trace Source™ disposable and refillable permeation tubes for the compounds shown in the following table. For additional details or to obtain a part number suitable for your application, please contact Sales.

**STEP GmbH Radiation Measurement Instrumentation:**

**Survey Meter, Part# OD-01: \$5,645.00**

- Display Module
- Measurement probe with protective cap
- 0.8 M ( 2.6 foot) connecting cable
- Instruction Manual
- Device calibration certificate
- Storage case

**Survey Meter, Part# OD-02: \$5,860.00**

- Display Module
- Measurement probe with protective cap
- 0.8 M ( 2.6 foot) connecting cable
- Instruction Manual
- Device calibration certificate
- Storage case

**OD Device Options**

5M (16 Foot) connecting cable for measurement probe:	\$585.00
10M (32 Foot) connecting cable for measurement probe	: \$680.00
15M (49 Foot) connecting cable for measurement probe	: \$765.00
50M (164 Foot) connecting cable for measurement probe	: \$895.00
Moderator cap (Acrylic glass shield) for high-energy applications of the X-Ray/Gamma Dosimeter in the photon energy range > 15MeV	: \$965.00
Wall mount	: \$610.00
Additional costs for modification of power supply	: \$680.00

**OD-01 and OD-02 Analysis Software for PC: \$565.00**

- Compatible with Windows 2000 and Windows XP
- Real-time recording of STEP Survey meter readings via USB interface
- Acquisition and representation of the device current mode (Dose, Dose rate, Zero point correction)
- Presentation of readings in scalable charts with zoom function
- Output of the chart to printable format
- Recording of measurement data to separate files
- Loading and Display options for stored measurement files
- Includes USB cable for connection to OD-01 and OD-02

**Area Dose rate Meter, Part# BD-01: \$(see below)**

- Display Module
- 1.5 M ( 4.9 foot) connecting cable
- Instruction Manual

- Device calibration certificate
- Carry bag with shoulder strap for portable use
- Battery
- Storage case

**Area Dose rate Meter, Part# BD-01: Options**

- Dose Rate 20  $\mu$ Sv/h to 200 mSv/H (standard configuration) : \$5,535.00
- Dose Rate 2  $\mu$ Sv/h to 20 mSv/H (custom design (BD-01 ND)) : \$6,145.00

**OD Device Options**

- 50M (164 Foot) connecting cable for measurement probe : \$895.00
- Wall Mount : \$610.00
- 15M (49 Foot) connecting cable for measurement probe : \$765.00
- 50M (164 Foot) connecting cable for measurement probe : \$895.00
- Additional costs for modification of power supply : \$680.00

**Survey Meter, Part# SM 3 D: \$850.00**

- Survey Meter with battery
- Instruction Manual
- Device calibration certificate
- Storage case

**Survey Meter, Part# SM 5 D: \$1,135.00**

- Survey Meter with battery
- Instruction Manual
- Device calibration certificate
- Storage case

**Survey Meter, Part# SM 7 D: \$1,135.00**

- Survey Meter, SM7D with battery
- Instruction Manual
- Device calibration certificate
- Storage case

**Survey Meter, Part# SM 7 D USB-with evaluation Software: \$1,435.00**

- Survey Meter, SM7D with USB port and battery
- USB cable and evaluation Software
- Instruction Manual
- Device calibration certificate
- Storage case

**Survey Meter, Part# SM 8 D USB-with evaluation Software: \$1,575.00**

- Survey Meter, SM8D with USB port and battery
- USB cable and evaluation Software
- Instruction Manual
- Device calibration certificate
- Storage case

**Radiation Monitoring System Part# DLMon / RMon:** Project based pricing available on request

- Intelligent radiation detector Type SON16 for monitoring of patients;  
Mounting options    –Overhead across bed (for thyroid monitoring)  
                              - Overhead along bed (for full body monitoring)
- Intelligent radiation detector Type SON31 for monitoring doors
- Intelligent display unit Type AT1-1
- Intelligent display unit Type AT1-2

Accessories-set

Serial bus connection hub  
Serial PCI card for PC; RS-485 interface PCI 485 ½; 2x Serial RS 485: optical isolation  
All cables (pre assembled for specified layout)  
Power supply for all detectors and display modules, 12V 60W protection class @@  
Serial bus cable to PC unit  
Host PC  
Software DLMon or RMon (server)  
License for Client-Software- Module DLMon or RMon

**Wireless- Dose rate Measurement System RMon 2 Part# RMon 2:** Project based pricing available on request

- Intelligent radiation detector Type SON41
- Intelligent display unit Type AT-NG 41



**STEP ION MOBILITY SPECTROMETERS:**

**Part #IMS-25R: \$35,000.00**

STEP Ion Mobility Spectrometer for ambient air, process gas or continuous stack gas monitoring: Specific compounds to be calibrated to be determined at time of quotation.

- Available compounds: Total Acids, HF, H<sub>2</sub>S, SO<sub>x</sub>, TDI, SO<sub>2</sub>, HCl, Cl<sub>2</sub>, Br, additional compounds available, contact STEP Analytics for assistance.
- Range varies and is adjustable according to compound/customer requirements
- Rack-mounted enclosure, 482.7mm L x 434.5mm W x 138.45mm H (19" L x 17.2" W x 5.5" H)
- Operating range, 0-50 degrees C (32-122 degrees F)
- Weight, 10.5kg (23.2lbs)
- Classification: Rated for General Purpose, 19" rack-mounted
- Data Output (front panel):
  - Integrated touchscreen graphic display
  - USB interface, Dual: (front panel)
- Connectors (back panel):
  - Fault alarm
  - Trigger in
  - 4-20mA (analog)
  - Modbus RTU/ASCII/TCP/IP
  - OPC UA/DA
  - RS-232/485 and Ethernet
- Power, 110-220 VAC 50-60Hz
- 1 year factory warranty

**Part #GCIMS-25R: \$40,000.00**

STEP Ion Mobility Spectrometer with integrated Gas Chromatography for continuous airborne contamination monitoring: Specific compounds to be calibrated to be determined at time of quotation.

Available compounds: Total Amines, DCM, CMME, BCME, NMP, PSA, NH<sub>3</sub>, DEA, TEA, BA; additional compounds available, contact STEP Analytics for assistance.

- Range varies and is adjustable according to compound/customer requirements
- Rack-mounted enclosure, 482.7mm L x 434.5mm W x 180mm H (19" L x 17.2" W x 7" H)
- Operating range, 0-50 degrees C (32-122 degrees F)
- Weight, 10.5kg (23.2lbs)
- Classification: Rated for General Purpose, 19" rack-mounted
- Data Output (front panel):
  - Integrated touchscreen graphic display
  - USB interface, dual; (front panel)
- Connectors (back panel):
  - Fault alarm
  - Trigger in
  - 4-20mA (analog)
  - Modbus RTU/ASCII/TCP/IP
  - OPC UA/DA
  - RS-232/485 and Ethernet
- Power, 110-220 VAC 50-60Hz
- 1 year factory warranty

**Part #IMS-25R Dual Mode: \$48,000.00**

STEP Ion Mobility Spectrometer for Dual-mode ambient air, process gas or continuous stack gas monitoring:  
Specific compounds to be calibrated to be determined at time of quotation.

- Available compounds: Up to 5 compounds each in Positive and Negative mode in the 1-100 ppb range.
- Range varies and is adjustable according to compound/customer requirements
- Rack-mounted enclosure, 482.7mm L x 434.5mm W x 138.45mm H (19" L x 17.2" W x 5.5" H)
- Operating range, 0-50 degrees C (32-122 degrees F)
- Weight, 10.5kg (23.2lbs)
- Classification: Rated for General Purpose, 19" rack-mounted
- Data Output (front panel):
  - Integrated touchscreen graphic display
  - USB interface, dual; (front panel)
- Connectors (back panel):
  - Fault alarm
  - Trigger in
  - 4-20mA (analog)
  - Modbus RTU/ASCII/TCP/IP
  - OPC UA/DA
  - RS-232/485 and Ethernet
- Power, 110-220 VAC 50-60Hz
- 1 year factory warranty

**STEP UV-IONIZATION MONITORS:**

**Part #GC-UVM-25R: \$25,775.00**

STEP UV-Ionization Monitor with integrated Gas Chromatography for ambient air, process gas or continuous ambient air monitoring: Specific compounds to be calibrated to be determined at time of quotation.

- Available compounds: additional compounds available, contact STEP Analytics for assistance.
- Range varies and is adjustable according to compound/customer requirements
- Sample time is approximately 2 minutes
- Rack-mounted enclosure, 19" L x 17.2" W x 5.5" H)
- Operating range, 0-100° C (32-122° F)
- Weight, 10.5kg (23.2lbs)
- Classification: Rated for General Purpose
- Data Output (front panel):
  - Integrated touchscreen graphic display
- USB interface, dual; (front panel)
- Connectors (back panel):
  - Fault alarm
  - Trigger in
  - 4-20mA (analog)
  - OPC UA/DA
  - RS-232/485 and Ethernet
- Power, 110-220 VAC 50-60Hz
- 1 year factory warranty

**Part #GC-UVM-25M: \$23,360.00**

STEP Mobile, Battery-Operated UV-Ionization Monitor with integrated Gas Chromatography for continuous process gas or ambient air monitoring: Specific compounds to be calibrated to be determined at time of quotation.

- Available compounds: additional compounds available, contact STEP Analytics for assistance.
- Range varies and is adjustable according to compound/customer requirements
- Sample time is approximately 2 minutes
  - Mobile enclosure, 480 mm x 130 mm x 350 mm (18.8" x 5.1" x 13.8")
  - Operating range, 0-100° C (32-122° F)
- Weight, 8kg (17.7lbs)
- Lithium-Ion Battery, mobile operation up to 5 hours
- Classification: Rated for General Purpose
- Data Output:
  - Integrated touchscreen graphic display
  - USB interface, dual; (front panel)
  - RS-232/485 and Ethernet
- Mouse & keyboard
- Power, 110-220 VAC
- Supplied in transport case
- 1 year factory warranty

**ADDITIONAL SYSTEM COMPONENTS:**

**Part #8000P: \$12,5000.00**

Series 8000P Permeation Gas Generator, dual oven:

- 19" rack-mounted enclosure, 19" L x 15" W x 7" H)
- Uses disposable LFH or ULED type trace source permeation tubes
- 30-150° C oven standard
- Dilution flow +/- 1% Full Scale Accuracy
- High Precision Mass Flow Controllers
- Calibrated to ISO 17025 Laboratory Certification

**Part #ADS-25R: \$12,425.00**

Air Dilution System:

- Dilution Factor; adjustable from 1:1-1:100
- Power Supply: 110-230VAC
- 19" Rack-Mounted System
- Flow regulated by Mass Flow Controllers

**Part #Nox-Gen-25R: \$6,200.00**



**Custom Sampler for Chlorine Mixed Chamber Monitoring:**

- Thermal reactor for converting NO<sub>2</sub>-NO, adjustable temperature control
- PermaPure Dryer for removing moisture
- Teflon Brushless DC Sample Pump
- Temperature and flow-controlled sampling system
- Custom designed enclosure

**Multi-Point Sampling System: Part # RVMPSS-XX** (XX indicating number of sample positions.) **Rotary Valve Sampling Systems** available from 10-45 ports, Pricing Varies with sampling positions, see below

**Base with choice of Valve Unit:**

- Base Unit:
  - Complete Windows workstation for system control
  - HMIS Software with touch screen interface
  - MODBUS Communication software
  - Ethernet/IP Output
  - Valve Unit: 10 sampling positions (Rotary Valve)
  - Enclosure (coating)

**Valve Unit options**

10 Ports	\$28,500.00
18 Ports	\$39,300.00
27 Ports	\$53,700.00
36 Ports	\$66,600.00
45 Ports	\$77,200.00

**Multi-Point Sampling System: Part # SVMPS-XX** (XX indicating number of sample positions.) **Solenoid Valve Sampling Systems** available from 4-32 ports, Pricing Varies with sampling positions, see below

**Base with choice of Valve Unit**

- Base Unit:
  - Complete Windows workstation for system control
  - HMIS Software with touch screen interface
  - MODBUS Communication software
  - Ethernet/IP Output
  - Valve Unit: 10 sampling positions (Rotary Valve)
  - Enclosure (coating)
  - 4-20 mA Output (optional)

Valve Unit options

8 Ports:	\$26,500.00
16 Ports	\$38,500.00
24 Ports	\$52,900.00
32 Ports	\$65,800.00

**Multi-Point Sampling System: Part # SVM PSS-4** (XX indicating number of sample positions.)

Solenoid Valve Sampling Systems available 4 ports, \$12,600.00

Base with choice of Valve Unit

- Base Unit:
  - Complete Windows workstation for system control
  - HMIS Software with touch screen interface
  - MODBUS Communication software
  - Ethernet/IP Output
  - 19" rack or glass Fiber enclosure Enclosure
  - 4-20 mA Output (optional)

General Multi sampler options

Stainless Steel enclosure	\$4,100.00
Modbus Output	\$3,900.00
Ethernet output	\$4,100.00
Use of normal PC+19" TFT/LCD (for use on the SCADA system:	\$-1,000.00

Part #SSwP-115V: \$640.00

Sample System, including pump:

Dimensions: 18.5"x18.5"x13"

Weight: 2.3 lbs/1 kg

Flow: adjustable from 200-1500 cc/min

Power, 115V/60Jz, 24W, 0.3A

Part #ADDCOM-IMS: \$800.00 per compound

Additional Compounds for IMS device

Part #ADDCOM-GC-IMS: \$800.00 per compound

Additional Compounds for GC-IMS device

**SPARE PARTS & CONSUMABLES:**

Power Cord: Part #71535K42: \$10.00

- 18 gauge wire
- Length: 3'

Part #DeviceCase: \$650.00

Custom designed case for device transport

IMS Controller	\$1,700	
IMS 19" Power Supply	\$1,200	
IMS 19" back wiring	\$950	
IMS 19" In OUT	\$525	
IMS 19" temperature module	\$1,300	
IMS 19" switching stages	\$1,600	
IMS 19" high voltage	\$2,400	
Current Loop	\$1,850	
Minicomputer	\$2,900	
SSD	\$325	
19" detector insert	\$10,725	
IMS HT Detector without amplifier	\$5,000	
Valve	\$250	
PCB Locker Red	\$10	
IMS 19" Housing	\$1,900	<b><u>SERVI</u></b>
Set of Hinges for Folding Front Panel	\$35	<b><u>CE:</u></b>
PFA Fitting Nut and Sealing Rings for 1/4" Tubes \$25		<b><u>Calibr</u></b>
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Recommended For Annual Maintenance:

Part #IMS-DGP: STEP-IMS Rotary Slide Drift Gas Pump:

- 6 VDS 0.09-0.3A
- Includes hermetic seal & leakage test
- 2.6 liters per minute volume flow
- Max 0.1 bar over pressure

Part #IMS-MP6V: STEP GC-IMS Membrane Pump

- DC-B 6V
- MPU3395-NMP015

IMS Filter/Scrubber

g report & calibration certificate for one compound

Span calibration available for additional compounds at \$450.00 per compound

Report Services: Varies

Measurements & reports for designated area at customer facility:

- On-site testing/measurements as designated by customer
  - Service period covers approximately 2-3 days, dependent upon customer requirements
  - Pricing includes measurement and testing report
  - Travel costs are not included in pricing and will be based up customer location
- Report Service-IMS: \$3,500.00  
Calibrated IMS-25R owned by STEP Analytics USA will be used for testing/measurements
- Report Service-GC-IMS: \$4,000.00  
Calibrated GC-IMS-25R owned by STEP Analytics USA will be used for testing/measurements
- Report Service-PID: \$2,600.00  
Calibrated GC-PID25R owned by STEP Analytics USA will be used for testing/measurements

Disposal Service: \$800.00

Disassemble unwanted device, recycle Tritium source, properly dispose of remaining components.  
Pricing includes disposal certification.

Repair Labor: \$135.00 per hour

Minimum labor service charge is one hour

Shipping & Handling: Varies

Starts at \$150.00/unit for first device  
Starts at \$50.00/order for all spare parts orders

STEP Analytics USA, Inc. proudly offers KIN-TEK:



**KIN-TEK**

**World Leader in Low Concentration Gas Standards™**

STEP Analytics is proud to be able to act as a reseller for the KIN-TEK Product line to allow us to provide to our customers complete monitoring systems and packages.

For over 40 years, **KIN-TEK** has specialized in:

- Trace concentration (ppm, ppb, and ppt) gas mixtures
- Disposable, refillable and diffusion permeation tubes for over 500 chemicals

- Wide array of gas standards generators for solving many real-world applications. Please go to “ <http://www.kin-tek.com/abgasst.html>” to view the KIN-TEK products on their website.

## Chemical List

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KIN-TEK makes several types of Trace Source™ disposable and refillable permeation tubes for the compounds shown in the following table. For additional details or to obtain a part number suitable for your application, please contact Sales.

**STEP GmbH Radiation Measurement Instrumentation:**

**Survey Meter, Part# OD-01: \$5,645.00**

- Display Module
- Measurement probe with protective cap
- 0.8 M ( 2.6 foot) connecting cable
- Instruction Manual
- Device calibration certificate
- Storage case

**Survey Meter, Part# OD-02: \$5,860.00**

- Display Module
- Measurement probe with protective cap
- 0.8 M ( 2.6 foot) connecting cable
- Instruction Manual
- Device calibration certificate
- Storage case

**OD Device Options**

5M (16 Foot) connecting cable for measurement probe:	\$585.00
10M (32 Foot) connecting cable for measurement probe	: \$680.00
15M (49 Foot) connecting cable for measurement probe	: \$765.00
50M (164 Foot) connecting cable for measurement probe	: \$895.00
Moderator cap (Acrylic glass shield) for high-energy applications of the X-Ray/Gamma Dosimeter in the photon energy range > 15MeV	: \$965.00
Wall mount	: \$610.00
Additional costs for modification of power supply	: \$680.00

**OD-01 and OD-02 Analysis Software for PC: \$565.00**

- Compatible with Windows 2000 and Windows XP
- Real-time recording of STEP Survey meter readings via USB interface
- Acquisition and representation of the device current mode (Dose, Dose rate, Zero point correction)
- Presentation of readings in scalable charts with zoom function
- Output of the chart to printable format
- Recording of measurement data to separate files
- Loading and Display options for stored measurement files
- Includes USB cable for connection to OD-01 and OD-02

**Area Dose rate Meter, Part# BD-01: \$(see below)**

- Display Module
- 1.5 M ( 4.9 foot) connecting cable
- Instruction Manual

- Device calibration certificate
- Carry bag with shoulder strap for portable use
- Battery
- Storage case

**Area Dose rate Meter, Part# BD-01: Options**

- Dose Rate 20  $\mu$ Sv/h to 200 mSv/H (standard configuration) : \$5,535.00
- Dose Rate 2  $\mu$ Sv/h to 20 mSv/H (custom design (BD-01 ND)) : \$6,145.00

**OD Device Options**

- 50M (164 Foot) connecting cable for measurement probe : \$895.00
- Wall Mount : \$610.00
- 15M (49 Foot) connecting cable for measurement probe : \$765.00
- 50M (164 Foot) connecting cable for measurement probe : \$895.00
- Additional costs for modification of power supply : \$680.00

**Survey Meter, Part# SM 3 D: \$850.00**

- Survey Meter with battery
- Instruction Manual
- Device calibration certificate
- Storage case

**Survey Meter, Part# SM 5 D: \$1,135.00**

- Survey Meter with battery
- Instruction Manual
- Device calibration certificate
- Storage case

**Survey Meter, Part# SM 7 D: \$1,135.00**

- Survey Meter, SM7D with battery
- Instruction Manual
- Device calibration certificate
- Storage case

**Survey Meter, Part# SM 7 D USB-with evaluation Software: \$1,435.00**

- Survey Meter, SM7D with USB port and battery
- USB cable and evaluation Software
- Instruction Manual
- Device calibration certificate
- Storage case

**Survey Meter, Part# SM 8 D USB-with evaluation Software: \$1,575.00**

- Survey Meter, SM8D with USB port and battery
- USB cable and evaluation Software
- Instruction Manual
- Device calibration certificate
- Storage case

**Radiation Monitoring System Part# DLMon / RMon:** Project based pricing available on request

- Intelligent radiation detector Type SON16 for monitoring of patients;  
Mounting options    –Overhead across bed (for thyroid monitoring)  
                              - Overhead along bed (for full body monitoring)
- Intelligent radiation detector Type SON31 for monitoring doors
- Intelligent display unit Type AT1-1
- Intelligent display unit Type AT1-2

Accessories-set

Serial bus connection hub  
Serial PCI card for PC; RS-485 interface PCI 485 ½; 2x Serial RS 485: optical isolation  
All cables (pre assembled for specified layout)  
Power supply for all detectors and display modules, 12V 60W protection class @@  
Serial bus cable to PC unit  
Host PC  
Software DLMon or RMon (server)  
License for Client-Software- Module DLMon or RMon

**Wireless- Dose rate Measurement System RMon 2 Part# RMon 2:** Project based pricing available on request

- Intelligent radiation detector Type SON41
- Intelligent display unit Type AT-NG 41



## STANDARD LIMITED WARRANTY

1. **General Warranty:** STEP Analytics USA, Inc. (STEP USA) warrants products manufactured by STEP Sensortechnik und Elektronik Pockau GmbH (STEP GmbH) and sold by STEP USA to be free from defects in materials and workmanship for the periods listed in the tables below.
  - 1.1. **Warranty Exclusions:** This warranty is expressly limited to the original owner who purchases the equipment directly from STEP USA or from an authorized STEP USA Distributor. To maintain this limited warranty, the product must be operated, calibrated, and maintained in accordance with the Operation and Maintenance Manual supplied with the product. This warranty is contingent upon customer's proper use of the product in the application and operating environment for which they were intended by STEP USA and is not applicable to any products that have been modified or subjected to unusual physical, environmental, or electrical stress, or for which the original identification marks have been removed or altered. These warranty provisions do not apply to any damage resulting from malicious damage, negligence, unauthorized maintenance or modification, accident, neglect, misuse, improper servicing, transportation, or normal wear and tear of the equipment. In addition, this warranty specifically excludes loss or damage to third parties and consequential damages of any kind. Determination as to whether this warranty provision applies to damaged goods shall reside solely with STEP USA. Disposition of any damaged goods deemed outside of this provision shall be the responsibility of customer. Consumable components used during regular operation of device are not covered under warranty. Scrubbers/filters drift gas pumps and membrane pumps are considered to be consumable and should be replaced at regular recommended intervals as recommended in product manual during normal device operation.
  - 1.2. **Return Policy:** In the event of discovery of a defective product, customer shall notify STEP USA, obtain a return authorization (RMA) for the defective product from STEP USA, and return the defective product to STEP's designated repair facility, freight prepaid, with a statement describing the defect. STEP USA requires prior approval via our RMA system before the product can be accepted. STEP USA's exclusive obligation and sole liability with respect to a defective product, and customer's sole remedy, is to either repair or replace at its sole discretion, any detector(s) or other product(s) which under proper and normal use prove defective in material and/or workmanship within the time periods of the tables below. Those items repaired or replaced by STEP USA under warranty shall be returned to customer transportation charges prepaid. Repaired or replaced items shall only be warranted for the remaining duration of the original item. Those items that are deemed by STEP USA not to be defective or are determined to have failed due to misuse or abuse shall be returned to customer at customer's expense, if the customer chooses not to pay for reasonable repairs.
  - 1.3. **Disclaimer of Implied Warranties:** The express warranties contained in this agreement are the sole and exclusive warranties provided by STEP USA. STEP USA specifically disclaims any other warranties, express or implied including but not limited to warranties of merchantability or fitness for a particular purpose, as well as any warranties alleged to have arisen from custom, usage, or past dealings between the parties.

STEP USA Standard Limited Warranty covers the instrument and its critical components as follows:

<u>Instruments</u>	<u>Warranty Period</u>
IMS/GC-IMS/GC-UVM/Dilution Systems: I-PC, cell detector (IMS), UV source monitor	One (1) year from purchase <sup>1</sup>
<u>Instrument Components (Fixed/Non-Consumable)</u>	<u>Warranty Period</u>
IMS/GC-IMS/GC-UVM/Dilution Systems: valve, rechargeable battery (mobile unit)	One (1) year from purchase <sup>1</sup>
<i>Consumable components: Scrubbers/filters, drift gas pumps, membrane pumps</i>	<i>No warranty for consumables</i>

<sup>1</sup>STEP USA One Year Warranty covers specific parts only. An instrument that has a failure of a covered component often requires other services that may not be covered under warranty.

### Warranty Matrix

Warranty is from date of shipment. Any major component not specifically identified below is covered under the Standard Limited Warranty for the instrument.

			Sensors
<u>Product</u>	<u>Instrument</u> <sup>o</sup>	<u>Component</u> <sup>Δ</sup>	<u>IMS/PID</u>
IMS/GC-IMS/GC-UVM	One (1) year	One (1) Year	One (1) Year

<sup>o</sup> Product electronics, switch panels, enclosures, displays, Δ Scrubber, pumps, rechargeable batteries

### STEP Analytics USA, Inc. GENERAL TERMS AND CONDITIONS OF SALE

The following terms and conditions of sale apply to all contracts and purchase orders placed with STEP Analytics USA Inc., unless precedent by other mutually acceptable terms and conditions which have been formally accepted in writing by an Officer of STEP Analytics USA, Inc.

#### 1. Terms and Conditions of Sale:

- 1.1. **Invoicing:** STEP Analytics USA, Inc. (hereinafter referred to as "STEP USA") shall invoice customer for the purchase price of the products upon STEP USA's delivery of the products to the carrier. Each shipment shall be invoiced and paid for when due without regard to other scheduled deliveries. All invoices shall be due and payable within thirty (30) days after the date of the invoice.
- 1.2. **Late Payment Charges:** Any late payment by customer not received by the agreed Net 30 terms shall be subject to a late payment charge from the date due until paid in full at a rate equal at all times to one and one-half percent (1.5%) per month or, if lower, the highest rate permitted by law. Payment received beyond 60 days of invoice date shall be subject to a late payment charge from the date due until paid in full at a rate equal at all time to three and one-half percent (3.5%) per month or, if lower, the highest rate permitted by law.
- 1.3. **Shipping:** All shipments will be made EXW (Ex Works), within the meaning of INCOTERMS 2000, to ship to address specified on the customer's purchase order (PO). Delivery will be deemed complete and risk of loss or damage to the product(s) will pass to upon delivery to the carrier. All shipping and handling charges shall be as specified by the prevailing product price list established by STEP USA at the time the order is accepted unless otherwise agreed by STEP USA in writing. The carrier will be selected by STEP USA, in its reasonable commercial discretion, only in the absence of specific instructions by customer. STEP USA will comply with all shipping instructions specified by customer.
- 1.4. **Taxes:** Unless otherwise agreed to in writing by STEP USA, all prices quoted are exclusive of transportation and insurance costs, and all taxes (as defined below). In addition to any other payments due, customer agrees to pay, indemnify and hold STEP USA harmless from any sales, use, excise, import or export, value-added or similar tax or duty, and any other tax not based on STEP USA's net income, including any penalties and interest, due to any payment to be made by customer, and any costs associated with the collection or withholding of any of the foregoing items (the "taxes"). When applicable, such taxes shall appear as separate items on STEP USA's invoice.
- 1.5. **Acceptance:** The product(s) shall be deemed accepted by customer upon delivery to the carrier unless a notice of defect is received by STEP USA within thirty (30) days after the delivery of the product(s) to the customer. STEP does not accept returns for refund, credit or exchange for any reason.

- 1.6. **Cancellation:** In the event the customer should cancel a purchase order placed with STEP USA, customer agrees to pay STEP USA a cancellation fee at a rate equal at all times to fifteen percent (15%) of the total purchase price listed on the customer purchase order. Payment of said cancellation fee is due upon receipt and subject to late payment charges as stated in the accepted STEP USA Terms and Conditions of Sale, Section 1, Subsection 2.

**2. Property Rights and Confidentiality:**

- 2.1. **Property Rights:** Customer agrees that STEP owns all right, title, and interest in the intellectual property rights in and to the Products. There are no implied rights.
- 2.2. **Sale Conveys No Right to Manufacture or Copy:** The Products are offered for sale and are sold by STEP subject in every case to the condition that such sale does not convey any license, expressly or by implication, to manufacture, disassemble duplicate or otherwise copy or reproduce any of the Products. Customer shall take appropriate steps with its customers, as STEP may request, to inform them of and assure compliance with the restrictions contained in this Subsection.
- 2.3. **General Warranty:** STEP USA warrants to the customer that products manufactured or sold by STEP Sensortechnik und Elektronik Pockau GmbH (STEP GmbH) and sold by STEP USA are free from defects in materials and workmanship. STEP USA's standard warranty period is one calendar year (12 months) from the original shipping date. Extended warranties may be available upon request.
- 2.4. **Warranty Exclusions:** This warranty is contingent upon customer's proper use of the detectors and/or other products in the application and operating environment for which they were intended by STEP USA and is not applicable to any products that have been modified or subjected to unusual physical, environmental, or electrical stress, or for which the original identification marks have been removed or altered. These warranty provisions do not apply to any damage resulting from malicious damage, negligence, unauthorized maintenance or modification, accident, neglect, misuse, improper servicing, transportation, or normal wear and tear of the equipment. In addition, this warranty specifically excludes loss or damage to third parties and consequential damages of any kind. Determination as to whether this warranty provision applies to damaged goods shall reside solely with STEP. Disposition of any damaged goods deemed outside of this provision shall be the responsibility of customer.
- 2.5. **Return Policy:** In the event of discovery of a defective product, customer shall notify STEP USA, obtain a return authorization (RMA) for the defective product from STEP USA, and return the defective product to STEP USA's designated repair facility, freight prepaid, with a statement describing the defect. STEP USA requires prior approval via our RMA system before the product can be accepted. STEP USA's exclusive obligation and sole liability with respect to a defective product, and customer's sole remedy, is to either repair or replace at its sole discretion, any detector(s) or other product(s) which under proper and normal use prove defective in material and/or workmanship within twelve (12) months after shipment. Those items repaired or replaced by STEP USA under warranty shall be returned to customer transportation charges prepaid. Repaired or replaced items shall only be warranted for the remaining duration of the original item. Those items that are deemed by STEP USA not to be defective or are determined to have failed due to misuse or abuse shall be returned to customer at customer's expense, if the customer chooses not to pay for reasonable repairs.
- 2.6. **Disclaimer of implied warranties:** The express warranties contained in this agreement are the sole and exclusive warranties provided by STEP USA. STEP USA specifically disclaims any other warranties, express or implied including but not limited to warranties of merchantability or fitness for a particular purpose, as well as any warranties alleged to have arisen from custom, usage, or past dealings between the parties.

3. **Limitation of Liability:** STEP USA's total liability to customer and all liabilities arising out of or related to this agreement, from any cause or causes, and regardless of the legal theory, including breach of contract, warranty, negligence, strict liability, or statutory liability, shall not, in the aggregate, exceed the amounts paid to STEP USA under the agreement, or under the specific delivery order at issue, whichever is less. In no event shall either STEP USA or customer be liable to the other for any special, indirect, incidental, consequential, or economic damages (including, but not limited to lost profits and lost business opportunity), regardless of the legal theory under which such damages are sought, and even if the parties have been advised

of the possibility of such damages. Any claim by customer against STEP USA relating to this agreement, other than in warranty, must be made in writing and presented to STEP USA within one (1) year after the earlier of: (1) the date on which customer accepts the deliverable at issue; or (2) the date on which STEP USA completes performance of the services specified in this agreement. Any claim under warranty must be made within the time specified in the applicable warranty clause.

4. **Indemnification:** Customer shall indemnify, defend and hold STEP USA harmless from all claims, damages, expenses, liabilities and losses, including without limitation attorney's fees and costs incurred that in any way arise out of or relate to (a) the manner in which customer and/or any of its customers or end users use or operate the detectors and/or other products; (b) any personal injuries, property damages or other losses resulting or occurring from the willful or negligent acts or omissions of customer, its customers or end users; (c) defects or other problems with other component parts, equipment or materials produced or supplied by anyone other than STEP USA and that may be used with the detectors and or other products; and/or (d) customer's transactions with its customers, end users or other parties regarding the analyzers and/or other products.
5. **End user certification: STEP USA products sold in North America are licensed solely for use by end-users in the USA:** STEP products may be partially or wholly manufactured in Germany, and have been approved for export to US end-users only. STEP USA products sold/distributed in North America may not be sold or transferred in any manner to an end-user outside of the US without prior written permission from a company officer of STEP USA, and STEP USA reserves the right to refuse sale or transfer of products to end-users outside North America without recourse. STEP USA reserves the right to require an executed, legally binding end-user certification in a form which is acceptable to the company prior to accepting any order. STEP USA reserves the right to refuse or cancel any order which it believes is not meeting the above requirement.

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract #17PSX0210

Delivery: Please see below

Terms: Net 45 Days

Contractor Name: Wilbur Technical Services, LLC


ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES
	<p><b>DISTRIBUTOR: Wilbur Technical Services, LLC</b></p> <p><b>Synspec</b></p> <p>See attached price list for STEP</p> <p>Authorized Distributor: Yes</p> <p>Price List / Catalog Number - All items in price list Dated: 2017</p> <p>Price List / Catalog Pages On Which: Bidding: All</p> <p>Complete Product Line Offered: Yes</p> <p>Wilbur Technical Support #860-508-7714 7:00 a.m. to 5:00 p.m. (7 days a week - 365 days per year)</p> <p>Shipment 45 Days A.R.O.</p> <p><u>General Repair Service</u> \$155.00/per hr on-site \$155.00/per hr off-site</p>

# Synspec Spare Parts Price List 2017

Printed by  
Print date

Beuksm  
3-2-2017

P/N	Description	Type of GC	Distributor price in EUR	List price in EUR
1000	PID detector head with electrodes	G	150,00	185,00
1004	PID lamp 10.6 eV 'O'-ring included	G	770,00	960,00
1006	FID detector	9	770,00	960,00
1006A	FID detector	A/D	770,00	960,00
1009	TCD filament (single)	9/A/D	530,00	665,00
1055	Ten port valve complete	9	970,00	1215,00
1056	Diaphragm for ten port valve	9	105,00	130,00
1060	Hydrogen safety valve	9	90,00	110,00
1060A	Hydrogen safety valve	A/D	90,00	110,00
1064	Ten port valve After receiving the old ten port valve we will send a credit of 275 EURO.	A/D	550,00	690,00
1064C	Ten port valve credit Only when the old ten port valve is in the possession of Synspec.	A/D	On request	On request
1064R	Ten port valve revision Only when the old ten port valve is in the possession of Synspec.	A/D	265,00	330,00
1064RR	Ten port valve revision Only when the old ten port valve is in the possession of Synspec. With revision rotor.	A/D	265,00	330,00
1066	Sample system valve set Serial number of the GC required.	9	260,00	330,00
1067	Sample system valve set serie 100 Serial number of the GC required.	A/D	220,00	275,00
1068	Sample system valve set serie 115 Serial number of the GC required.	A/D	260,00	330,00
1073	Sample system valve set serie 401 Serial number of the GC required	A/D	260,00	330,00
1100A	Column for Alpha 115/116 With connections and preconditioned	A/D	200,00	250,00
1100B	Column for Alpha 401	A/D	410,00	510,00
1100D	Column SY-1 2/ 13m 0.32mm 1µ for 601 Used for EN14662-3 certified instruments	9	495,00	615,00
1100E	Column SY-1 2/28m 0.32mm 1µ for 611/615	9	820,00	1025,00
1100F	Column SY-5 2/13m 0.32mm 1µ for 601	9	410,00	510,00
1100H	Column SY-AL2O3 5/10m 0.32mm 5µ 811/815	9	825,00	1030,00
1100J	Column SY-SULFUR 2/28m 0.32mm 4µ for 810	9	825,00	1030,00
1100S	Column PLOT, 5+45 m x 0.32mm, 8 µm GC serial number required	G	0,01	0,01
1101A	Column packed Porapak P80/100 GC serial number required	9	410,00	510,00
1101B	Column packed HayeSep R GC serial number required	9	410,00	510,00

Type of GC: G=General / 9 = GC955 / A = GCALPHA / D=GCDELTA / S=Multi Point Sample System

# Synspec Spare Parts Price List 2017

Printed by  
Print date

Beuksm  
3-2-2017

P/N	Description	Type of GC	Distributor price in EUR	List price in EUR
	1/16" 120+40cm with Hayesep R			
1101S	Column set packed special GC serial number required	9	On request	On request
1103	Ferrules for column 0.32 Set of 4 pieces for use with 0.32mm capillary column.	G	32,00	40,00
1151	Analytical tubing set for PID	9	190,00	250,00
1151A	Analytical tubing set series 100 & 300	A/D	310,00	390,00
1151B	Analytical tubing set Alpha 115	A	410,00	510,00
1151E	Analytical tubing set for series 400	A/D	295,00	365,00
1151F	Analytical tubing set for PID/FID	9	250,00	310,00
1151H	Analytical tubing set for FID	9	220,00	275,00
1151I	Analytical tubing set Alpha 114	A	460,00	575,00
1151J	Analytical tubing set Alpha 401	A/D	430,00	535,00
1153A	Inline Filter for analysers with one filter	G	42,00	52,00
1153B	Inline Filter set for analysers with two filters	G	84,00	104,00
1153C	Inline filters triple for analysers with three filtersGC	G	125,00	155,00
1157A	Precontube Tenax GR	G	70,00	85,00
1157B	Precontube Tenax TA	G	70,00	85,00
1157S	Precontube special GC serial number required	G	On request	On request
1162A	Sample cylinder V1	9	520,00	650,00
1162B	Sample cylinder V2	9/A/D	520,00	650,00
1170	Carrier gas pressure sensor	G	58,00	72,00
1171	Mass Flow Controller 0..10 ml/min	9	690,00	860,00
1175A9	Pressure reducer zero air	9	85,00	105,00
1175AA	Pressure reducer zero air Alpha 115	A/D	85,00	105,00
1175AA114	Pressure reducer zero air Alpha114	A	85,00	105,00
1175C9	Pressure reducer carriergas	9	85,00	105,00
1175CA	Pressure reducer carriergas	A/D	85,00	105,00
1175H9	Pressure reducer hydrogen	9	85,00	105,00
1175HA	Pressure reducer hydrogen	A/D	85,00	105,00
1176	Sample pump streamselector N-815-KNE	S	255,00	320,00
1178A	Sample pump 2.5 l/min 12V	9/A/D	125,00	160,00
1178B	Sample pump 2.5 l/min 12V Teflon	9	160,00	195,00
1179	Membrane set for stream selector pump	S	26,00	33,00
1181A	Sample loop complete 250 µL	G	64,00	80,00

Type of GC: G=General / 9 = GC955 / A = GCALPHA / D=GCDELTA / S=Multi Point Sample System

# Synspec Spare Parts Price List 2017

Printed by  
Print date

Beuksm  
3-2-2017

P/N	Description	Type of GC	Distributor price in EUR	List price in EUR
1181B	Sample loop complete 500µL	G	64,00	80,00
1181C	Sample loop complete 2ml	G	64,00	80,00
1188	Returned precontube cooled V2	9/A/D	On request	On request
1198	Precontube cooled V2 for 811/815 For GC955 with serial number higher than #2000 After returning the old preconcentration tube, we will send a credit of 735 EURO	9	1.105,00	1380,00
1199	Precontube cooled V2 for 810 For GC955 with serial number higher than #2000 After returning the old preconcentration tube, we will send a credit of 735 EURO	9	1.105,00	1380,00
1200	Precontube cooled V2 for GC955 114 For GC955 with serial number higher than #2xxx After returning the old preconcentration tube, we will send a credit of 735 EURO	9	1.105,00	1380,00
1202	Precontube cooled V2 for Alpha 114 For Alpha/Delta, please specify serial number After returning the old preconcentration tube, we will send a credit of 735 EURO	A	1.105,00	1380,00
1205	Precontube cooled V2 special For GC955, please specify serial number and filling After returning the old preconcentration tube, we will send a credit of 735 EURO	9	1.105,00	1380,00
2000	GC oven heating element 230 Vac For use on 220Vac	9	160,00	195,00
2001	GC oven heating element 115 Vac For use on 110Vac	9	160,00	195,00
2005A1	Ventilator back plate 60x60 mm	A/D	44,00	55,00
2005A2	Ventilator computer compartment 60x60 mm	A/D	44,00	55,00
2005B1	Ventilator top plate 80x80 mm	9	44,00	55,00
2005B2	Ventilator back plate 80x80 mm	9	44,00	55,00
2005C	Dustfilter for ventilator 60x60 mm	A/D	5,25	6,60
2005D	Dustfilter for ventilator 80x80 mm	9	11,00	13,50
2008	Transformer for precon 230 Vac	9	90,00	110,00
2009	Transformer for precon 115 Vac	9	90,00	110,00
2010A	Transformer for cooled precon 230 Vac V2	9	90,00	110,00
2010B	Transformer for cooled precon 115 Vac V2	9	90,00	110,00
2012	Oven door complete	9	105,00	130,00
2014	Ventilator motor 4 wire (V2) Used in GC955 with serial number higher than #2000	9	115,00	145,00
2015	Ventilator motor 4 wire for rebuilt (V2) Used in GC955 with serial number lower than #2000	9	115,00	145,00
3000	Harddisk PATA & standard factory setting For Alpha and Delta with serial number lower than 5000 Specify serial number for GC955	G	125,00	160,00
3002	Harddisk SATA & standard factory setting For Alpha and Delta with serial number higher than	G	125,00	160,00

Type of GC: G=General / 9 = GC955 / A = GCALPHA / D=GCDELTA / S=Multi Point Sample System



# Synspec Spare Parts Price List 2017

Printed by  
Print date

Beuksm  
3-2-2017

P/N	Description	Type of GC	Distributor price in EUR	List price in EUR
	5000			
3004	Computer board for GC955 Specify serial number (Replacement for the Nova PV-D5251 computer board) Serial number #3057 up to #3117 and #7000 and up. and #2999-3002,3025-3027,3039-3054,3057-3060	9	470,00	585,00
3004A	Computer board Alpha/Delta For Alpha/Delta series instruments with serialnumber 5000 and higher.	A/D	470,00	585,00
3004RC9	Computer rebuild kit GC955 complete Specify serial number Rebuild to Nova PV-D5251 Included: Windows 7 OS Computer board Hard disk with programs Front panel LCD with touch screen Dividing wall	9	1.360,00	1700,00
3004RCA	Computer rebuild kit Alpha complete For Alpha series instrument with serial number below 5000. After rebuild the standard spare part number 3004A can be used. This rebuild kit can be placed by Synspec only.	A	840,00	1050,00
3006	Colour LCD 10.4" touch screen for GC955 Specify serial number	9	630,00	790,00
3006A	Colour LCD 6" touch screen for Alpha Complete with all parts: Backlite inverter, touchscreen controller and display data cable	A/D	525,00	655,00
3011	Power supply for computer	9	160,00	195,00
3011A	Power supply for computer >#5000	A/D	190,00	235,00
3011B	Power supply for computer <#5000	A/D	190,00	235,00
3051	Power supply board for PID	9/A/D	115,00	145,00
3052	Power cable for PID	G	48,00	60,00
3053	Signal cable for PID	G	48,00	60,00
3057A	Electronic board MX8 for GC with PID to be used on GC's with sample cylinder version 1	9	360,00	445,00
3057B	Electronic board MX8 for A/D with PID	A/D	360,00	445,00
3057C	Electronic board MX8 for GC with PID to be used on GC's with sample cylinder version 2	9	360,00	445,00
3058A	Electronic board MX8 for GC with PID/FID to be used on GC's with sample cylinder version 1	9	360,00	445,00
3058B	Electronic board MX8 for A/D with FID	A/D	360,00	445,00
3058C	Electronic board MX8 for GC with PID/FID to be used on GC's with sample cylinder version 2	9	360,00	445,00
3060A	Power distribution board for PID >#5000 for Alpha >#5000	A/D	130,00	165,00
3060B	Power distribution board for FID >#5000	A/D	130,00	165,00

Type of GC: G=General / 9 = GC955 / A = GCALPHA / D=GCDELTA / S=Multi Point Sample System

# Synspec Spare Parts Price List 2017

Printed by  
Print date

Beuksm  
3-2-2017

P/N	Description	Type of GC	Distributor price in EUR	List price in EUR
3060C	Power distribution board for FID <#5000	A/D	130,00	165,00
3060D	Power distribution board for FID/Precon	A/D	130,00	165,00
3060E	Power distribution board for PID <#5000 for Alpha >#5000	A/D	130,00	165,00
3061	Power distribution board PID (230 Vac)	9	130,00	165,00
3062	Power distribution board PID (115 Vac)	9	130,00	165,00
3063	Power distribution board PID/FID 230Vac	9	130,00	165,00
3064	Power distribution board PID/FID 115Vac	9	130,00	165,00
3065	Electro board I/O (terminal strip)	G	130,00	160,00
3067A	Electronic board for sample cylinder V1 For use with a standard precon and a cooled precon and a four wire connected oven motor (V2) Standard used in GC955 with serial number higher than #2000	9	84,00	105,00
3067B	Electronic board for sample cylinder V2 For use with a version 2 sample cylinder	9	84,00	105,00
3067C	Electronic board for sample cylinder	A	84,00	105,00
3073	Electronic board for sample pressure For use in GC's without sample cylinder	A/D	44,00	55,00
5500	Dust filter holder Teflon PFA (25mm) Holder for 25 mm filter membranes. Included 10 pcs 25mm filter membranes, recommended to replace every month.	G	168,00	210,00
5501	Dust filter membranes 25 mm (10x)	G	44,00	55,00
5502	Dust filter holder Teflon PFA (47mm) Holder for 47 mm filter membranes. Included 10 pcs 47 mm filter membranes, recommended to replace every month.	G	255,00	320,00
5503	Dust filter membranes 47 mm ( 10x)	G	54,00	66,00
5504A	Permapure sample dryer extra long 24"	G	435,00	544,00
8050	Silubrin Grease I, tube à 100 gram	9	53,00	66,00
9992	Pre-advice costs for repair	G	350,00	350,00

Type of GC: G=General / 9 = GC955 / A = GCALPHA / D=GCDELTA / S=Multi Point Sample System

**STATE OF CONNECTICUT  
PROCUREMENT SERVICES  
EXHIBIT B- PRICE SCHEDULE**

Contract #17PSX0210

Delivery: Please see below

Terms: Net 45 Days

Contractor Name: Wilbur Technical Services, LLC


ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES
	<p><b>DISTRIBUTOR: Wilbur Technical Services, LLC</b></p> <p><b>Teledyne Advanced Pollution Instrumentation</b></p> <p>See attached price list for Teledyne Advanced Pollution Instrumentation</p> <p>Authorized Distributor: Yes</p> <p>Discount from price list: 7%</p> <p>Price List / Catalog Number - All items in price list Dated: 2017</p> <p>Price List / Catalog Pages On Which: Bidding: All</p> <p>Complete Product Line Offered: Yes</p> <p>Wilbur Technical Support #860-508-7714 7:00 a.m. to 5:00 p.m. (7 days a week - 365 days per year)</p> <p>Shipment 45 Days A.R.O.</p> <p><u>General Repair Service</u> \$155.00/per hr on-site \$155.00/per hr off-site</p>

**MODEL 602 Beta<sup>PLUS</sup> PARTICLE MEASUREMENT SYSTEM - Hourly**

Part#	Description	Price
070000000	<b>MODEL 602 Beta<sup>PLUS</sup> PARTICLE MEASUREMENT SYSTEM - Hourly</b> <b><u>INCLUDED COMPONENTS PER ANALYZER</u></b> 2 - Sample Pump(s) 1 - Service Air Supply 1 - Cartridge Filter Supply Magazine (capacity of 96 filters) 1 - Cartridge Filter Return Magazine (capacity of 96 filters) 1 - White/White filter cartridges (Pack of 50) 1 - White/Black filter cartridges (Pack of 50) 1 - Glass fiber sample filter discs (Pack of 200) - Whatman GF10 1 - Filter cartridge separator tool 1 - PM10 Pre-impactor, 1m <sup>3</sup> /h (requires second stage cyclone - example: DU0000138) 1 - Accessory Kit - R1/R2 mass reference filters, (3) aluminum cartridges for spy filters, (4) inlet nozzles 1 - Sample Tubing Installation Kit - 2.1m (line A), 1.7m (line B), Amb Temp. sensor with 5m cable, (2) condensate collectors 1 - Remote Management Software, PC-based 1 - Operating Manual on CD <i>TWO YEAR STANDARD WARRANTY</i>	<b>\$49,500</b>
	<b><u>RECOMMENDED VERIFICATION KITS (necessary for the proper operation of the model 602)</u></b>	
073160000	Audit Kit <i>Includes: inlet leak check adapter, sample port inlet leak check adapter, leak check cassette, leak check plug, zero test kit</i>	\$1,565
073170000	Reference Filter Handling Kit <i>Includes: clamping key for cartridge assembly, tweezers for filter handling, spy filter cutting tool</i>	\$440
	<b><u>SAMPLING INLETS</u></b>	
DU0000136	PM10 Size Selective Inlet, 2.3m <sup>3</sup> /hr EN1234-1 Compliant	\$2,285
DU0000137	PM2.5 Size Selective Inlet, 2.3m <sup>3</sup> /hr EN14907 Compliant	\$2,505
DU0000141	US EPA Standard-Louvered PM10 Inlet, 1m <sup>3</sup> /h	\$2,005
DU0000138	PM2.5 BGI VSCC <sup>TM</sup> , 1m <sup>3</sup> /h	\$1,825
DU0000140	PM1 BGI SCC-A, 1m <sup>3</sup> /h	\$1,665
DU0000202	TSP Inlet, 1m <sup>3</sup> /h	\$1,100
	<b><u>INSTALLATION HARDWARE OPTIONS</u></b>	
DU0000407	Support Tripod - supports two inlet tubes, and ambient temp. sensor mount	\$775
DU0000009	Roof Flange Kit, 3PC	\$1,400
KIT000334	Sample Tube Extension Kit No. 1 - (Qty. 2) Sample Tubes@500mm ea. with coupling	\$255
KIT000336	Sample Tube Extension Kit No. 2 - (Qty. 2) Sample Tubes@750mm ea. with coupling	\$295
KIT000337	Sample Tube Extension Kit No. 3 - (Qty. 2) Sample Tubes@1000mm ea. with coupling	\$310
	<b><u>VERIFICATION KIT</u></b>	
DU0000181	BGI Tetracal Flow Calibrator (0.1 to 30 lpm)	\$3,260
	<b><u>ANNUAL CONSUMABLES</u></b>	
DU0000256	Pump Maintenance Kit (every six months)	\$150
FL0000045	Glass fiber sample filter discs (Pack of 200)	\$140
	<b><u>MISCELLANEOUS</u></b>	
073180000	Product Manual, Paper Copy	\$110
076220000	Additional Product Manuals on CD	\$30



**TELEDYNE**  
**ADVANCED POLLUTION INSTRUMENTATION**

9480 Carroll Park Dr., San Diego, CA 92121

**MODEL 465H NEMA HIGH LEVEL PROCESS OZONE ANALYZER**

Part#	Option#	Description	Price
057000000		<b>MODEL 465H NEMA HIGH LEVEL PROCESS O<sub>3</sub> ANALYZER</b>	<b>\$6,450</b>
		<b>INCLUDES:</b>	
		* NEMA ENCLOSURE	* 1/4" STAINLESS STEEL FITTINGS
		* TEMPERATURE & PRESSURE COMPENSATION	* 4-20mA or 0-5 V OUTPUT
		* PARTICULATE FILTER	* AUTOZERO VALVE FOR EXT ZERO GAS
		* EXHAUST OZONE DESTRUCTOR	* FLOWMETER
		* CALIBRATION CERTIFICATE	
		* PRODUCT MANUALS ON CD	
		<i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	N/C
		<b><u>MISCELLANEOUS</u></b>	
065370100	17A	Low Flow Alarm	\$294
058200000	63A	Ethernet Option	\$203
061610000	70A	Product Manual, Paper Copy	\$105
076220000	70B	Additional Product Manuals on CD	\$26
	96	Factory Recalibration	\$700
053320000	97	Stainless Steel Tags	\$61



**TELEDYNE API**  
 Everywhere you look™  
 9970 Carroll Canyon Road, San Diego, CA 92131

**MODEL 430 COMPACT OZONE ANALYZER**

Part#	Option#	Description	Price
070430000		<b>MODEL 430 COMPACT OZONE ANALYZER</b> RANGE: 0-100PPB (MIN), 0-1000PPB (MAX) INCLUDES: * LIGHTWEIGHT, POLYCARBONATE CHASSIS WITH HANDLE * PARTICULATE SAMPLE FILTER * 0-5 V ANALOG OUTPUT * 12V DC OPERATION * 110-240V (AC) TO 12V (DC) POWER ADAPTER * 5-40C OPERATING TEMPERATURE RANGE (WITH EPA APPROVAL) * PRODUCT MANUALS ON CD <i>TAPI Customer Service support by phone, fax, or email for the life of the instrument</i>	\$4,750
			N/C
		<b><u>GENERAL</u></b>	
083330000		External Portable Battery Pack, 14.8V, 6.6Ah (~14hrs run time)	\$700
		<b><u>RECOMMENDED SPARE PARTS</u></b>	
FL0000033		Filter, DFU, Kynar	\$60
065660000		Replacement UV Lamp Assembly	\$269
VA0000054		Bench Manifold Valve	\$290
		<b><u>MISCELLANEOUS</u></b>	
083110000	70A	Product Manual, Paper Copy	\$110
076220000	70B	Additional Product Manuals on CD	\$30



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 9970 Carroll Canyon Road, San Diego, CA 92131

**MODEL 701 ZERO AIR SYSTEM**

Part#	Option#	Description	Price
014500500		<b>MODEL 701 ZERO AIR SYSTEM</b>	<b>\$4,550</b>
		<b>INCLUDES:</b>	
		STANDARD 18 SLPM @ 30 PSI	
		PRODUCT MANUALS ON CD	
		DEWPOINT SENSOR	
		TWO YEAR STANDARD WARRANTY	N/C
		TAPI Customer Service support by phone, fax, or email for the life of the instrument	N/C
		<b><u>SCRUBBERS</u></b>	
015850100	1B	CO Scrubber	\$905
072160200	2B	High Purity Hydrocarbon/CO Scrubber (Includes Option 1B)	\$1,775
		<b><u>MOUNTING</u></b>	
031570000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285
052990000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285
031560000	21	Rack Mount, no Slides, Ears only	\$115
050180000	29	Carrying Handle (Strap)	\$40
		<b><u>ADDITIONAL OPTIONS</u></b>	
015980000	42A	Annual Maintenance Kit	\$585
062290000	72B	13 SLPM Flow Restriction	\$125
		<b><u>MISCELLANEOUS</u></b>	
078250000	70A	Product Manual, Paper Copy	\$110
076220000	70B	Additional Product Manuals on CD	\$30
Warranty1EXT	92A	1 Year Extended Warranty	(1) \$520
		Please Contact Factory for Additional Extended Warranty Fees	(1) Consult Factory



**TELEDYNE API**  
 Everywhere you look™  
 9970 Carroll Canyon Road, San Diego, CA 92131

**MODEL T701 ZERO AIR SYSTEM**

Part#	Option#	Description	Price
070780000		<b>MODEL T701 ZERO AIR SYSTEM</b>	<b>\$4,850</b>
		<b>INCLUDES:</b>	
		STANDARD 18 SLPM @ 30 PSI	
		FULL MODBUS TCP/IP COMMUNICATION	
		DEWPOINT SENSOR	
		PRODUCT MANUALS ON CD	
		TWO YEAR STANDARD WARRANTY	N/C
		TAPI Customer Service support by phone, fax, or email for the life of the instrument	N/C
		<b><u>SCRUBBERS</u></b>	
015850100	1B	CO Scrubber	\$905
072160200	2B	High Purity Hydrocarbon/CO Scrubber (Includes Option 1B)	\$1,775
		<b><u>MOUNTING</u></b>	
031570000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285
052990000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285
031560000	21	Rack Mount, no Slides, Ears only	\$115
050180000	29	Carrying Handle (Strap)	\$40
		<b><u>ADDITIONAL OPTIONS</u></b>	
015980000	42A	Annual Maintenance Kit	\$585
062290000	72B	13 SLPM Flow Restriction	\$125
		<b><u>MISCELLANEOUS</u></b>	
078250000	70A	Product Manual, Paper Copy	\$110
076220000	70B	Additional Product Manuals on CD	\$30
Warranty1EXT	92A	1 Year Extended Warranty	(1) \$520
		Please Contact Factory for Additional Extended Warranty Fees	(1) Consult Factory





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**MODEL T701H HIGH PERFORMANCE ZERO AIR SYSTEM**

Part#	Option#	Description	Price
060000400		<b>MODEL 701H HIGH PERFORMANCE ZERO AIR SYSTEM</b>	<b>\$7,800</b>
		<b>INCLUDES:</b>	
		STANDARD 30 SLPM @ 35 PSI	
		HYDROCARBON & CO SCRUBBER	
		DEWPOINT SENSOR	
		PRODUCT MANUALS ON CD	
		TWO YEAR STANDARD WARRANTY	N/C
		TAPI Customer Service support by phone, fax, or email for the life of the instrument	N/C
		<b><u>MOUNTING</u></b>	
031570000	20A	Rack Mount with Chassis Slides 26" = 660 mm	\$285
052990000	20B	Rack Mount with Chassis Slides 24" = 610 mm	\$285
031560000	21	Rack Mount, no Slides, Ears only	\$115
050180000	29	Carrying Handle (Strap)	\$40
		<b><u>ADDITIONAL OPTIONS</u></b>	
064780000	42A	Annual Maintenance Kit	\$555
062290100	72B	13 SLPM Flow Limiter	\$1,255
		<b><u>MISCELLANEOUS</u></b>	
078250000	70A	Product Manual, Paper Copy	\$110
076220000	70B	Additional Product Manuals on CD	\$30
Warranty1EXT	92A	1 Year Extended Warranty	(1) \$520
		Please Contact Factory for Additional Extended Warranty Fees	(1) Consult Factory



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**MODEL 751 ZERO AIR SYSTEM**

Part#	Option#	Description	Price
070760000		<b>MODEL 751 PORTABLE ZERO AIR SYSTEM</b>	<b>\$4,500</b>
		<b>INCLUDES:</b>	
		STANDARD 5 SLPM @ 30 PSI	
		RUGGED HAND CARRIED CASE	
		DEWPOINT SENSOR	
		PRODUCT MANUALS ON CD	
		TWO YEAR STANDARD WARRANTY	N/C
		TAPI Customer Service support by phone, fax, or email for the life of the instrument	N/C
		<b><u>SCRUBBERS</u></b>	
079140000	1B	CO Scrubber	\$905
		<b><u>ADDITIONAL OPTIONS</u></b>	
079570000	42A	Annual Maintenance Kit	\$430
043910100		Additional Silica Gel Dryer Media (2 jugs)	\$263
078970000		Spare Dryer Canister	\$509
079580000	72B	External 4 SLPM Flow Restriction	\$125
		<b><u>MISCELLANEOUS</u></b>	
078360000	70A	Product Manual, Paper Copy	\$110
076220000	70B	Additional Product Manuals on CD	\$30
Warranty1EXT	92A	1 Year Extended Warranty	(1) \$520
		Please Contact Factory for Additional Extended Warranty Fees	(1) Consult Factory



**TELEDYNE API**  
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**MODEL 751H HIGH PERFORMANCE ZERO AIR SYSTEM**

Part#	Option#	Description	Price
070770000		<b>MODEL 751H PORTABLE HIGH PERFORMANCE ZERO AIR SYSTEM</b>	<b>\$7,850</b>
		<b>INCLUDES:</b>	
		STANDARD 10 SLPM @ 30 PSI	
		RUGGED TRAVELING CASE WITH WHEELS AND RETRACTABLE HANDLE	
		DEWPOINT SENSOR	
		PRODUCT MANUALS ON CD	
		TWO YEAR STANDARD WARRANTY	N/C
		TAPI Customer Service support by phone, fax, or email for the life of the instrument	N/C
		<b><u>ADDITIONAL OPTIONS</u></b>	
079570000	42A	Annual Maintenance Kit	\$430
079590000	72C	External 9 SLPM Flow Restriction	\$125
		<b><u>MISCELLANEOUS</u></b>	
077730000	70A	Product Manual, Paper Copy	\$110
076220000	70B	Additional Product Manuals on CD	\$30
Warranty1EXT	92A	1 Year Extended Warranty	(1) \$520
		Please Contact Factory for Additional Extended Warranty Fees	(1) Consult Factory



## Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations

This notice is provided under the authority of Connecticut General Statutes §9-612(G)(2), as amended by P.A. 10-1, and is for the purpose of informing state contractors and prospective state contractors of the following law (italicized words are defined on the reverse side of this page).

### CAMPAIGN CONTRIBUTION AND SOLICITATION LIMITATIONS

No *state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor*, with regard to a *state contract or state contract solicitation* with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee (which includes town committees).

In addition, no holder or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of State senator or State representative, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

On and after January 1, 2011, no state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor, with regard to a state contract or state contract solicitation with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall **knowingly solicit** contributions from the state contractor's or prospective state contractor's employees or from a *subcontractor or principals of the subcontractor* on behalf of (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

### DUTY TO INFORM

State contractors and prospective state contractors are required to inform their principals of the above prohibitions, as applicable, and the possible penalties and other consequences of any violation thereof.

### PENALTIES FOR VIOLATIONS

Contributions of solicitations of contributions made in violation of the above prohibitions may result in the following civil and criminal penalties:

**Civil Penalties** – Up to \$2,000 or twice the amount of the prohibited contribution, whichever is greater, against a principal or a contractor. Any state contractor or prospective state contractor which fails to make reasonable efforts to comply with the provisions requiring notice to its principals of these prohibitions and possible consequences of their violations may also be subject to civil penalties of up to \$2,000 or twice the amount of the prohibited contributions made by their principals.

**Criminal penalties** – Any knowing and willful violation of the prohibition is a Class D felony, which may subject the violator to imprisonment of not more than 5 years, or not more than \$5,000 in fines, or both.

### CONTRACT CONSEQUENCES

In the case of a state contractor, contributions made or solicited in violation of the above prohibitions may result in the contract being voided.

In the case of a prospective state contractor, contributions made or solicited in violation of the above prohibitions shall result in the contract described in the state contract solicitation not being awarded to the prospective state contractor, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

The State shall not award any other state contract to anyone found in violation of the above prohibitions for a period of one year after the election for which such contribution is made or solicited, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

Additional information may be found on the website of the State Elections Enforcement Commission, [www.ct.gov/seec](http://www.ct.gov/seec). Click on the link to "Lobbyist/Contractor Limitations."



## DEFINITIONS

“State contractor” means a person, business entity or nonprofit organization that enters into a state contract. Such person, business entity or nonprofit organization shall be deemed to be a state contractor until December thirty-first of the year in which such contract terminates. “State contractor” does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

“Prospective state contractor” means a person, business entity or nonprofit organization that (i) submits a response to a state contract solicitation by the state, a state agency or a quasi-public agency, or a proposal in response to a request for proposals by the state, a state agency or a quasi-public agency, until the contract has been entered into, or (ii) holds a valid prequalification certificate issued by the Commissioner of Administrative Services under section 4a-100. “Prospective state contractor” does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

“Principal of a state contractor or prospective state contractor” means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a state contractor or prospective state contractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a state contractor or prospective state contractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a state contractor or prospective state contractor, which is not a business entity, or if a state contractor or prospective state contractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any state contractor or prospective state contractor who has *managerial or discretionary responsibilities with respect to a state contract*, (v) the spouse or a *dependent child* who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the state contractor or prospective state contractor.

“State contract” means an agreement or contract with the state or any state agency or any quasi-public agency, let through a procurement process or otherwise, having a value of fifty thousand dollars or more, or a combination or series of such agreements or contracts having a value of one hundred thousand dollars or more in a calendar year, for (i) the rendition of services, (ii) the furnishing of any goods, material, supplies, equipment or any items of any kind, (iii) the construction, alteration or repair of any public building or public work, (iv) the acquisition, sale or lease of any land or building, (v) a licensing arrangement, or (vi) a grant, loan or loan guarantee. “State contract” does not include any agreement or contract with the state, any state agency or any quasi-public agency that is exclusively federally funded, an education loan, a loan to an individual for other than commercial purposes or any agreement or contract between the state or any state agency and the United States Department of the Navy or the United States Department of Defense.

“State contract solicitation” means a request by a state agency or quasi-public agency, in whatever form issued, including, but not limited to, an invitation to bid, request for proposals, request for information or request for quotes, inviting bids, quotes or other types of submittals, through a competitive procurement process or another process authorized by law waiving competitive procurement.

“Managerial or discretionary responsibilities with respect to a state contract” means having direct, extensive and substantive responsibilities with respect to the negotiation of the state contract and not peripheral, clerical or ministerial responsibilities.

“Dependent child” means a child residing in an individual's household who may legally be claimed as a dependent on the federal income tax of such Individual.

“Solicit” means (A) requesting that a contribution be made, (B) participating in any fund-raising activities for a candidate committee, exploratory committee, political committee or party committee, including, but not limited to, forwarding tickets to potential contributors, receiving contributions for transmission to any such committee or bundling contributions, (C) serving as chairperson, treasurer or deputy treasurer of any such committee, or (D) establishing a political committee for the sole purpose of soliciting or receiving contributions for any committee. Solicit does not include: (i) making a contribution that is otherwise permitted by Chapter 155 of the Connecticut General Statutes; (ii) informing any person of a position taken by a candidate for public office or a public official, (iii) notifying the person of any activities of, or contact information for, any candidate for public office; or (iv) serving as a member in any party committee or as an officer of such committee that is not otherwise prohibited in this section.

“Subcontractor” means any person, business entity or nonprofit organization that contracts to perform part or all of the obligations of a state contractor's state contract. Such person, business entity or nonprofit organization shall be deemed to be a subcontractor until December thirty first of the year in which the subcontract terminates. “Subcontractor” does not include (i) a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or (ii) an employee in the executive or legislative branch of state government or a quasi-public agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a state or quasi-public agency employee.

“Principal of a subcontractor” means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a subcontractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a subcontractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a subcontractor, which is not a business entity, or if a subcontractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any subcontractor who has managerial or discretionary responsibilities with respect to a subcontract with a state contractor, (v) the spouse or a dependent child who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the subcontractor.