ITEM OPPORTUNITY SYNOPSIS

Scouting Number: 2024-003					
Name of the item to be scouted:	Microwave Assisted Sample Digestion Unit				
State item to be used in:	Oregon				
Describe the Item:					
Please describe the item application/the end use of the item.	This request is for a modern, stand alone, multi-cell microwave assisted sample digester system that digests/transforms solid and liquid environmental samples into their dissolved elemental components for analysis with an ICP. The preferred system will have the following characteristics: high throughput, safe, corrosion resistant microwave sample digester that can run microwave assisted digestions that comply with EPA Methods: 3015A and 3051B (https://www.epa.gov/esam/epa-method-3015a-microwave- assisted-acid-digestion-aqueous-samples-and-extracts) 3050B (https://www.epa.gov/esam/epa-method-3050b-acid-digestion- sediments-sludges-and-soils 3052 (https://www.epa.gov/sites/default/files/2015- 12/documents/3052.pdf). The preferred digester must include the following: high power (deliver > 2000 W of microwave power); multiple sample rotors (holders) with sample vessels (made of PTFE- TFM) to facilitate digestion of both liquids and solids; accommodate large and small samples; have a working temperature of at least 230 °C; have a working pressure of at least 45 bars (1 bar =~1 atm presure); it must include real-time IR temperature sensing of samples as they're being digested; have a rapid cool-down capability, and be equipped with a library of modern digestion methods than are readily utilized as needed.				
Supplier Information:					
Type of Supplier Being Sought (select from the list below):					
Manufacturer	х				
Contract Manufacturer					
Distributor					
Other (Please Specify)					
Reason for Scouting Submission (select from the list below)					
2nd Supplier					
Price	x				
Re-Shore					
Past supplier no longer available					
New Product Startup					
BABA					
Other (Please Specify)					
Summary of Technical Specifications and Performance Requirements:					
Describe the manufacturing processes (elaborate to provide as much detail as possible)	The preferred device will use microwave energy to facilitate the digestion (breakdown) of environmental samples into their constituent elements for subsequent elemental analysis. This device shall be automated, programable, and made of modern durable materials and have a practical lifetime of at least 10 years. Samples are placed into reaction vessels and a cocktail of acids are added and the vessels sealed. The vessels are placed into a sample holder (rotor) and placed in the device. The device will followed present algorithms that use microwaves to heat the samples, monitor the temperature and pressure, and ultimately completely dissolve the sample.				

Provide dimensions / size / tolerances / performance specifications of the item	The preferred device shall be a tabletop model, meaning that it can fit onto a standard laboratory bench. It shall use 230 Volt (50/60 Hz) power, contro temperature and vent to the laboratory ventilation system. The system footprint shall be approximately 30 inches wide, 30 inches deep and 30 inches tall. It shall be high throughput (i.e., capable of digesting 100+ samples in an 8-hour period) and have rotors (sample holders) for digesting routine samples and high performance rotors with larger sample vessels fo difficult to digest samples. The system shall be controlled via a touch screer interface to select digestion methods that is used to monitor conditions and progress during a digestion run. The system shall come with a built-in library of recognized digestion methods including – EPA methods EPA Methods 3015A, 3050B, 3051B and 3052. It must have built-in safety features (e.g., locking door, high temperature warning) and use contactless infrared (IR) temperature sensor/monitoring system to monitor vessel temperatures during digestion runs. The device must be capable of running digestions at or above 230 °C and have real-time digestion temperature control. The sample digestion vessels must be easy to assemble and disassemble digestion vessels must have an active vent and re-seal design. The device shall be easily vented to remove fumes to laboratory exhaust system. The device must have a variable speed cooling capability that automatically increases with high temperature spikes during digestion. The device must come with a minimum 3-year manufacturer's warranty.			
List required materials needed to make the product, including materials of product components, if applicable	The device shall be made of durable materials including stainless steel and aluminum alloys. All surfaces that are potentially exposed to the acidic digestion fluids shall be made of acid resistant materials such as fluorpolymers or have multilayer fluorpolymer coatings. As described above, the reaction vessels shall be made of highly acid resistant PTFE-TFM.			
Are there applicable certification requirements?				
Yes				
No Blasse combine	x			
Are there any applicable regulations that apply to the production of this item?				
Yes				
No	x			
Please explain:				
Are there any other standards / requirements?				
Yes				
No Blazco ovaloja:	X			
Additional Comments:				
Additional technical comments:	The device shall come with multiple digestion vessel holders to accommodate the "high throughput" requirement and the requirement to digest difficult samples. Generally, digestion vessel holders are round, and called "rotors" so that samples can rotate within the device during the digestion process once the device is closed and the digestion run has been initiated. For example the device should come with at least 3 rotors that can hold at least 40 samples and 1 reference sample each, including sample vessels, and racks to hold the reaction vessels when they are being loaded or cleaned. In addition, the preferred device shall include at least 1 rotor that can hold 20 larger samples, including sample vessels, for difficult to digest samples, and a rack for holding the reaction vessels when they are being loaded or cleaned.			
Volume and Pricing:				
Estimated Potential Business Volume (i.e. #units per day, month, year):	The procurement is for one complete Multi-cell microwave assisted sample digester system with multiple sample rotors and sample vessels.			

	The cost of one complete system is estimated to cost approximately		
Estimated Target Price/Unit Cost Information:	\$76,000 (including shipping, installation and training).		
Delivery Requirements:			
When is it needed by? (Immediate, 30 days, 6 months, etc.)	April 1, 2024		
Describe packaging requirements (i.e. individually/group packaging, etc.)) In a durable protective container and palleted		
Where will this item be shipped?	Corvallis, Oregon		
Additional Comments:			
	Center for Public Health and Environmental Assessment (CPHEA)/ Pacific		
Is there other information you would like to include?	Ecological Systems Division (PESD)		



Microwave reaction platform

Multiwave 5000



Prepare for perfection

PERFECT SAMPLE PREPARATION IS WHERE SUPERIOR TRACE **ELEMENTAL ANALYSIS BEGINS.**

You can use the best analytical equipment in the world, but without flawless sample preparation, your measurement values won't be reliable. That's where Anton Paar's Multiwave 5000 comes in. We've incorporated over 40 years of sample preparation expertise into the most ambitious, the most user-friendly microwave system ever built.

- It's fast saving time, boosting throughput, and reducing costs, with up to 64 samples in a single run.
- It's flexible easy configuration, straightforward operation.
- It's resilient challenging samples, no problem; temperatures up to 300 °C for extended periods; operation limits up to 100 bar.
- It's intelligent, ingenious even ->500 pre-installed programs, guiding features, and a 'clever' door.
- It's intuitive 10.1" high-resolution, durable touchscreen display; smartphone-like software; no explanation needed for daily operation.

IT'S THE LAB CHEMIST'S DREAM.

Premium digestion parameters – up to 300°C and 100 bar

500+ pre-installed programs

30+ subsidiaries and 50+ distribution partners



One instrument, every application

Up to 64 samples in 1 run

Tool-free vessel handling

A **microwave system** from analysts, for analysts



RELIABLE DIGESTION RESULTS THANKS TO ADVANCED VESSEL AND SENSOR TECHNOLOGY

Comprehensive reaction control is guaranteed thanks to temperature control for each position and various control strategies for the simultaneous digestion of different sample types. SmartVent detection identifies venting events via NOx gases, increasing protection against corrosion.

TIME-SAVERS: HANDS-FREE DOOR OPENER AND OPTIMIZED COOLING

With the unique hands-free door opener, all you need to do is push gently against the door. You can do it with your elbow – no need to set the vessels or rotor aside. The integrated forced-air cooling system cools the vessels within minutes after heating cycles due to its unique air gap design. The optimized cooling ensures short process times and an increased lifetime for key components.

KNOWLEDGE HUB: ALL THE INFORMATION YOU NEED – VIA THE INSTRUMENT INTERFACE

Instruction manuals, a large method library, and the application guide are just a few clicks away. Integrated video manuals make training easy. Information and software updates are free and communicated through push notifications.



MAXIMUM SAFETY IN ALL SITUATIONS

When you're working at elevated temperatures and pressures, safety is essential. To protect users and equipment, Multiwave 5000 is equipped with active and passive safety features: self-checks, software interlocks, and a re-sealing safety door. Each instrument is tested individually.

Multiwave 5000 is the only sample preparation microwave platform that comes with ETL and GS ("approved safety") certificates from independent testing institutes.

SMARTSCREEN: SIMPLE START

Configure the home screen according to your needs: Define shortcuts for often-used programs, menu links, or video manuals on your home screen and make Multiwave 5000 truly yours.

SMARTLIGHT: VISUALIZE THE STATUS OF YOUR INSTRUMENT

The color and mode of SmartLight reflect whether an experiment is in progress, finished, or on standby. No need to dash over from your desk to check if the run is finished – just cast a glance from afar.

SMARTLINK: MULTIWAVE 5000 CONNECTIVITY MEANS EFFICIENT TIME MANAGEMENT

SmartLink connects Multiwave 5000 to your PC, notebook, tablet, or mobile phone, so you can monitor and operate experiments remotely. Automated notifications keep you informed, whether you're in the lab or on the go.

PHARMA INDUSTRY STANDARDS COMPLIANCE

Multiwave 5000 complies with national and international standards such as pharmacopeia, GMP, GAMP 5, and 21 CFR Part 11. With the pharma-specific qualification package, Multiwave 5000 can be quickly integrated into your workflow.

Digestions **simplified**

SMARTVENT TECHNOLOGY

The use of SmartVent technology is a reliable way to deal with overpressure, an unwanted side effect of digestion reactions. Thanks to the controlled release of reaction gases, it enables the attainment of maximum digestion temperatures independent of the applied sample amounts.

Anton Paar's SmartVent technology rotors are robust, lightweight, and accommodate more samples on a smaller footprint. Made for fast, safe, tool-free operation, our SmartVent technology vessels provide a new level of performance and convenience for the sample preparation laboratory. Their practical design impacts all steps of operation: from sample weighing and reagent addition to closing, opening, and cleaning.

THE KEY TO SUCCESSFUL DIGESTIONS

- Reliable opening and closing mechanism without loss of analytes
- Digestion of a large variety of samples
- Up to 50 % higher sample quantities
- Samples with different reactivity in a single run
- Only 3 parts to handle, no tools required
- Closing and opening twice as fast as other vessels
- Rotors can be loaded inside and outside of the oven
- Cooling fins and guided airflow enable fast cooling
- Optimized surface and compact design for less adsorption and easier cleaning
- Long service life
- Low-cost consumables





samples.





HVT ROTORS: A PROVEN SUCCESS FOR ACID DIGESTION OF ROUTINE SAMPLES

- Available in various volumes: 50 mL, 56 mL, and 80 mL. - Throughput of up to 41 samples in a single run

- Ideal for digestion of various kinds of routine samples at moderate temperatures, including food and biological samples, waste water and sludge, soil and sediments, agricultural samples, and cosmetic and pharmaceutical

SVT ROTOR: THE BEST NOW EVEN BETTER

- Advanced version of the HVT vessel
- Premium operating parameters (temperatures up to 250 °C) for complete digestions in minimal time
- Highest throughput for any high-performance rotor on the market: up to 20 samples in a single run.
- Ideal for digestion of demanding samples, such as ceramics, alloys, polymers, cosmetics, geological materials, petrochemicals, or chemicals.

Sealed Vessels

MICROSAMPLE ROTOR 64MG5

Requiring less than 20 mg of sample and approx. 1 mL of acid, the 64-position rotor is unique for digestion of large numbers of microsamples, such as those for biological materials.

very reactive or require extreme temperatures and pressures for complete digestion, Anton Paar offers a unique, proven solution: Rotor 8N with PTFE-TFM or quartz vessels. Made for simultaneous and wireless pressure and pressure increase rate measurement as well as temperature control of every vessel, it withstands temperatures up to 300 °C for extended periods of time at operation limits up to 80 bar. If spontaneous reactions occur, the microwave power is reduced immediately and, if required, the cooling airflow is intensified.

HIGH-END ROTOR 8N

For samples that are either

Ingenious sensor technology



UNRIVALED: SMARTTEMP CONTACTLESS MEASUREMENT OF INTERNAL TEMPERATURE FOR SVT AND HVT VESSELS.

The SmartTemp sensor measures the internal temperature of each vessel directly and in real-time. Combining the fast temperature feedback of an internal temperature probe with the convenience of an infrared sensor, reaction control is easier and safer than ever essential for hard-to-digest or exothermic samples and high temperatures.

UNIQUE MULTI-REFERENCE: IR SENSOR INTERNAL TEMPERATURE CONTROL FOR HVT VESSELS.

The standard Multiwave 5000 sensor allows precise control of digestion processes in each vessel. The digestion runs can be controlled based on different temperature models and control strategies. The hottest sample, the coldest sample, or the average temperature of all samples can be used as references, a feature offered only by Anton Paar.

	ROTOR 24HVT50/80	ROTOR 41HVT56	ROTOR 20SVT50	ROTOR 8 NXF/NXQ	ROTOR 64MG5	
Number of vessels	24	41	20	8	64	
Volume	50 mL / 80 mL	56 mL	50 mL	100 mL / 80 mL	5 mL	
Material	PTFE-TFM	PTFE-TFM	PTFE-TFM	PTFE-TFM / Quartz	Glass	
HF resistance	Yes	Yes	Yes	Yes (PTFE-TFM) / No (Quartz)	No	
Temperature control	Internal T in all positions / SmartTemp		tTemp SmartTemp		IR in 16 positions	
Pressure control	SmartVent technology	/ SmartVent detection		p in all vessels	PTFE seal	
Applications	Routine samples: biolo samples, EPA procedu pharmaceutical sample	gical and environmental ires, food, cosmetic, and es	Harder to digest samples: including polymers, ceramics, petroleum products, and alloys	Most difficult samples	Microsamples up to 20 mg	

SMARTVENT DETECTION

SmartVent detection indirectly controls the pressure and identifies venting events in vessels by registering NOx gases in the exhaust air. This function is part of the comprehensive safety concept of Multiwave 5000 and increases the protection against corrosion.

Multiwave 5000 is backwards compatible, it can accommodate Rotors 16MF and 16HF and accessories of older Multiwave models.



TEMPERATURE CONTROL IN SEALED VESSELS (ROTOR 8 AND ROTOR 16)

An infrared sensor measures the temperature at the base of each reaction vessel for a safe and reliable digestion process. Internal probes for temperature measurement in a reference vessel are also available.



Special solutions beyond microwave acid digestion

Some samples require special treatment. Multiwave 5000 provides many options for other sample preparation methods in addition to acid digestion. They all benefit from microwave heating technology. All of them are faster, safer, cleaner, and more cost-efficient than their classic, conventionally-heated counterparts.



MICROWAVE-ASSISTED EXTRACTION

Microwave-assisted extraction is the perfect alternative to conventional extraction methods, such as Soxhlet or ASE, as reaction times are reduced from hours to only a few minutes and less solvent is used. Microwaveassisted extraction is thus a cost-effective way to improve the performance and throughput of your HPLC-based or GC-based analysis routines. Multiwave 5000 is suitable for extractions of PCBs, PAHs, and hydrocarbons from environmental and food samples, derivatization reactions prior to analysis, and polymer extractions. It is compliant with US-EPA and ASTM methods.



MICROWAVE-ASSISTED **EVAPORATION**

The 24EVAP accessory is a supplement to Rotor 24HVT50, Rotor 24HVT80, and Rotor 41HVT56. It simplifies and facilitates the evaporation of acids and concentration of aqueous sample solutions. Since the same vessel can be used for digestion as well as for prior or subsequent evaporation, there is no need to transfer digestion solutions. For a variety of samples, automatic endpoint determination makes reducing your sample volume convenient and reliable. The external scrubber neutralizes the acid vapors with a washing efficiency of more than 95 %.



MICROWAVE-INDUCED OXYGEN COMBUSTION (MIC)

This unique, clean, and quick method is suitable for all combustible solids (wood, paper, coal, food, or polymers). Analytes are trapped in a low-concentration absorption solution which can be measured without dilution.

Our comprehensive service provides you with the best individual coverage for your investment. You benefit from:





Maximum uptime

The shortest response time



MICROWAVE-ASSISTED

Multiwave 5000 enables the

to grams in less than 1 hour

protein hydrolysis of milligrams

with precise temperature control

during the reaction. It is possible

PROTEIN HYDROLYSIS

to apply inert gas.



MICROWAVE DRYING

Rotor 1DRY efficiently dries samples 4 times faster than conventional methods, and provides samples without carbonization or contamination. Humidity and unwanted odors are removed via the exhaust system.





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We are confident in the high quality of our instruments. That's why we provide full warranty for three years.



All new instruments* include repair for 3 years. You avoid unforeseen costs and can always rely on your instrument. Alongside the warranty we offer a wide range of additional services and maintenance options.

*Due to the technology they use, some instruments require maintenance according to a maintenance schedule. Complying with the maintenance schedule is a prerequisite for the 3-year warranty.

Service and support directly from the manufacturer

Certified service engineers

БЙ

A global service network



INSERT VIALS

To accelerate the sample preparation workflow further and eliminate time-consuming cleaning steps, disposable borosilicate glass inserts are available for HVT and SVT vessels. For ultratrace metal analysis, quartz inserts are available as well.

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Salient Characteristics of a Preferred Microwave assisted Digestor

The preferred microwave digestor shall have the following characteristics:

- The microwave digestor should be rotor-based system allowing for both high throughput and high-performance rotors (sample holders) to be used seamlessly.
- The instrument shall have a built-in touch screen interface with no need to connect additional screens or computers that add to the overall footprint.
- The instrument shall have contact-less IR sensors for temperature measurement.
- The digestor shall have at least a 2000W microwave magnetron able to deliver the output in an un-pulsed mode.
- The instrument shall come with a minimum 3-year warranty.
- The instrument shall allow for easy, wireless connection to a mobile device or electronic notebook for control, monitoring and record keeping.
- Built-in safety features (e.g., locking door, high temperature warning).
- Digestion temperature control.
- Easy to assemble and disassemble digestion vessels.
- Device is vented to remove fumes to laboratory exhaust system.
- Device has variable speed cooling that automatically increases with high temperature spikes during digestion.
- The instrument shall have a built-in library of methods and the ability to add custom/operator developed methods:
 - The methods must include the following EPA Methods 3015A, 3050B, 3051B and 3052.
- The system should be supplied with the following rotors (sample holders):
 - 3 rotors capable of holding at least 40 sample vessels each, at a time. The vessels used should be easy to work with. The sample vessels should have the active vent and re-seal type design allowing for more flexibility with total sample weight. The sample vessels should have a working pressure of at least 45 bar. The sample vessels should have a maximum filling volume of at least 30 ml and should be able to hold up-to 1.5 g of organic sample weight. The sample vessels should be made of highly durable PTFE-TFM. Cheaper materials such as PTFE-PFA will not be accepted. The rotors shall be supplied with racks to hold at least 40 + vessels. Tool free vessel handling shall be preferred.
 - One high performance rotor capable of holding up to 20 larger sample vessels allowing for digestion of difficult to digest samples. This rotor and sample vessels should have a working temperature of at least 250 °C and should be designed to withstand 100 bar pressure. The vessels offering longer hold times at 250 °C shall be preferred. Vent and re-seal design allowing for higher absolute organic sample weights shall be preferred. The vessels should be able to hold at least 1.5 g of organic sample weight. The maximum filling volume on the vessels should be at least 30 mL. This rotor should have a contactless sensor capable of measuring the internal temperature of the vessels and not rely on a calculated or estimated value. The rotor should be supplied with racks to hold 20 vessels. Tool free vessel handling shall be preferred.



Date: 08/24/2023

USEPA Attn: Mark Johnson 200 Sw 35th St Corvallis OR 97333-4902 **Delivery** Address

USEPA Attn: Mark Johnson 200 Sw 35th St Corvallis OR 97333-4902

Quotation

820252060

Customer Reference: Customer No.:	283987
Quotation valid until:	11/24/2023

Your Contact Partner at Anton Paar USA, Inc.:				
Name:	Mr. Chaitanya Kaushik			
Telephone:	+1 - 804 - 550-1051			
Mobile:	+1 - 804 - 634 - 0002			
Email:	chaitanya.kaushik@anton-paar.com			

Dear Mr. Mark Johnson,

Referring to your request we are pleased to submit the following quotation.

Pos.	Item Description	Qty.	Price per Unit	Pos.	Amount		
	Item No. Cust. Tariff No. Origin	Unit	in USD	Disc.	in USD		
000100	MULTIWAVE 5000 60HZ PACKAGE 20SVT50 230165 85143990 AT (2)	1 EA	37,110.00	-20.00 %	29,688.00		
	Multiwave 5000: versatile and modular microwave reaction platform system for acid digestion and leaching. Can be extended with various rotors for other applications.						
	Comes with: 2000 W microwave power- in unpulsed mode IR temperature sensor - for contact-free temperature measureme kinds of vessels Cooling unit – fast vessel cooling for high throughput Method library with more than 500 included methods SmartLink – remote control for easy connection with your mobile notebook SmartLight – time saving visual interaction High safety standards – fluoropolymer coated cavity, resealing sa door, corrosion resistant exhaust unit, software interlocks etc.	ent of al phone afety	l or				

Anton Paar USA, Inc.

10215 Timber Ridge Drive, Ashland, VA 23005, USA



Quotation 820252060

Date: 08/24/2023

Pos.	Item Description	Qty.	Price per Unit	Pos.	Amount
	Item No. Cust. Tariff No. Origin	Unit	in USD	DISC.	in USD
	Included: 222111 Multiwave 5000 60Hz, 1 PCS 228593 Rotor 20SVT50 (includes 20 vessels), 1 PCS 224790 SmartTemp Sensor, 1 PCS				
	RUS: RU 2014 833 2B				
000200	IR TEMPERATURE SENSOR MW 5000 224115 90251900 AT	1 EA	251.00	-20.00 %	200.80
	Infrared sensor including cable for Multiwave 5000.				
	RUS: RU 2014 833 2A				
000300	ROTOR 41HVT56 176270 84199085 AT	3 EA	18,450.00	-20.00 %	44,280.00
	High-throughput rotor with 41 SMART VENT technology ve made of PTFE-TFM.	essels			
	Applications: Digestion and acid leaching of all kinds of samples including biological, environmental, agricultural, cosmetic and pharmaceutical samples.				
	Comes with: 1 STK Rotor 41HVT56 (without vessels) 41 STK Pressure Vessel HVT56 1 STK Handling Tool for HVT				
	Attention: additional IR sensors required				
000400	RACK 10SVT 228188 39269097 AT	2 EA	170.00		340.00
000500	RACK 12HVT 129671 39205100 DE	4 EA	150.00		600.00
000600	Anton Paar Installation P00061 90279000 AT	1 EA	750.00	-100.00 %	0.00
	This service includes: - The installation according to the manufacturer's specificat	tions			
	The installation will be carried out by qualified Anton Paar p by using certified and calibrated equipment.	personnel,			
000700	Anton Paar Training P01172 90279000 AT	1 EA	750.00	-100.00 %	0.00



Quotation 820252060

Date: 08/24/2023

Pos.	Item Description	Qty.	Price per Unit	Pos.	Amount
	Item No. Cust. Tariff No. Origin	Unit	in USD	Disc.	in USD
	This service includes: - End User Training on the use of the instrument, prop cleaning - Training Certificate for every participant	er upkeep and			
	The training will be carried out by qualified Anton Paar	personnel.			
Sum o	f Positions		USD		75,108.80
Freight	t		USD		650.00
Tax			USD		0.00
Total	Amount CIP Corvallis		USD		75,758.80

Available Options

Pos.	Item Description	Qty.	Price per Unit	Pos.	Amount
	Item No. Cust. Tariff No. Origin	Unit	in USD	Disc.	in USD
000102	<i>Anton Paar Preventive Maintenance On-Site</i> P01077 90279000 AT	2 EA	2,688.00	-5.00 %	5,107.20
	This item belongs to position 000100.				
	This service includes: - Check of the instrument and ambient conditions - Instrument cleaning - Replacement of normal wear parts - Inspection of critical components - Adjustments as needed - Performance Verification - Maintenance Report				
	This service will be carried out at the customer's facility by a certified Anton Paar service engineer following relevant factory standards, using calibrated and certified tools.				



Quotation 820252060

Date: 08/24/2023

Conditions

Delivery Time:Approx. 8-9 weeks after receipt of purchase orderTerms of Delivery:CIP CorvallisTransport by:TruckTerms of Payment:Variable terms of payment

Additional Information

3-year warranty applies solely on purchased instrument(s). Consumable items and any spare parts purchased separately are excluded from this warranty.

(2) For this instrument a regular scheduled service is recommended to ensure proper instrument functionality and the highest performance and reliability.

Partial prepayment required\$40,108.80 due prior to placing factory order\$35,000.00due Net 30 upon shipping

Further Regulations

The Equal Opportunity Clauses set forth in 41 CFR Section 60-1.4(a), 60-741(a) - (f), 60-250.4(a) and 29 CFR Part 471, Appendix A are incorporated herein by reference.

General Terms and Conditions

The General Terms of Delivery of Anton Paar USA, Inc. in compliance with Incoterms in the most recent valid version exclusively apply to the contract. The General Terms of Delivery are available at www.anton-paar.com/terms.

Liability

Any and all claims that may arise out of or in connection with the present contract are limited in total to the value of present order. Any claims exceeding this limitation of liability are expressly excluded.

Looking forward to receiving your kind order we remain sincerely yours,

Anton Paar USA, Inc.