

# Purchase Order

INDUSTRIAL TECHNOLOGY DEVELOPMENT INSTITUTE

Supplier :	INSTRUMIX SUPPLIER, INC.		P.O. No. :	GAAE-PO-202-01-0002 (STD)	
Address :			Date :	January 16, 2025	
TIN :			Mode of Procurement : Public Bidding		
Gentlemen: Please furnish this Office the following articles subject to the terms and conditions contained herein:					
Place of Delivery : STD Building			Delivery Term : 90 calendar days		
Date of Delivery :			Payment Term :		
Stock/ Property No.	Unit	Particulars	Quantity	Unit Cost	Amount
	lot	<b>Supply, Delivery, Installation and Commissioning of one (1) lot Graphite Furnace and Flame Atomic Absorption Spectrophotometer (with Accessories)</b>  <b>Shimadzu Atomic Absorption Spectrophotometer Model: AA-7800</b>  <b>Optics</b> Wavelength range: 185.0 to 900.0 nm Monochromator: Aberration-corrected Czerny-Turner mounting, Number of grating grooves: 1800 lines/mm, Focal length: 300 mm Bandwidth: 0.1, 0.2, 0.4, 0.7, 1.0, 2.0L nm (6-step automatic switching) Detector: Photomultiplier tube Optics: Optical double-beam Furnace: High-throughput single beam Background correction method: BGC-SR (high-speed self-reversal method) (185.0 to 900.0 nm) BGC-D2 (D2 lamp method) (185.0 to 430.0 nm) Number of HC lamps: 8 lamps 2 lamps simultaneously lit (1 for measurement, 1 warming up for next measurement) Lamp mode: EMISSION, NON-BGC, BGC-D2, BGC-SR  <b>Data Processing</b> Software requirements: Microsoft Windows (64bit) Parameter setting: Wizard method Measurement mode: Flame continuous method, flame micro sampling method, furnace method, flame emission method Concentration conversion mode: Calibration curve method (order: 1st, 2nd, 3rd) Standard addition method, simple standard addition method (order: 1st) Repeat analysis: Up to 20 repetitions. Mean value, standard deviation (SD) and coefficient of variation (RSD) display Automatic exclusion of deviant values by setting SD and %RSD Baseline correction: Automatic correction of baseline drift by offset correction in peak height/ peak area modes.	1	6,188,000.00	6,188,000.00

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		<p>Signal processing segment setting: Signal processing segments can be changed in peak height / peak area modes.</p> <p>Sensitivity correction: Automatic calibration curve correction function using sensitivity monitoring.</p> <p>Analog output: 2 channels (atomic absorption/energy signal, background)</p> <p>Output range: 5.0, 2.5, 1.25, 0.625 Abs./V (each settable in 4 stages)</p> <p>Fixed at 1 V F.S. in EMISSION mode</p> <p>Tabular data processing: Final concentration calculations based on sampled volume, dilution rate, fixed volume, and factor inputs</p> <p>Recall of parameters: Template functions available</p> <p>Procedure/result display: MRT (Measurement Results Table) worksheet</p> <p>Report generation: Summary report</p> <p>QA/QC: Select whether to continue or discontinue Measurements based on results of evaluation on coefficient of correlation, %RSD, ICV, ICB, CCV, CCB, PB, LCS, SPK, PDS, and DUP</p> <p>Re-analysis: Prescriptive and intelligent dilution options.</p> <p>Automatic dilution and re-analysis of unknown samples via autosampler (flame micro sampling method, furnace method)</p> <p>Digital recording: Management by login ID and password</p> <p>Control user access authority by user level</p> <p>- Log record - Audit trail - Electronic signatures</p> <p><b>FLAME</b></p> <p><b>Burner Unit</b></p> <p>Type: Air-cooled pre-mix type</p> <p>Burner head: Titanium 10 cm slot</p> <p>Nebulizer: Pt-Ir capillary</p> <p>PTFE orifice</p> <p>Ceramic impact bead (capable of handling hydrofluoric acid)</p> <p>Chamber: Engineering plastics</p> <p>Positioning: AA-7800F</p> <p>Lateral/vertical manual adjustment</p> <p>AA-7800F/AAC</p> <p>Automatic flame/furnace switching by motor</p> <p>Automatic search of optimum burner height</p>			-



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		Angle adjustment: 0 to 90° Type: Air-C2H2 flame, N2O-C2H2 flame  <b>GAS CONTROL</b> Flow rate control: Automatic fuel gas flow rate setting (0.1 L/min step) Manual support gas flow rate setting Automatic search of optimum gas flow rate Safety measures: Automatic flame extinction via flame vibration sensor Acetylene regulator failure sensor Automatic gas leak check Automatic Air-N2O switching as C2H2 flow rate increases Flame monitor Prevention of incorrect burner head use Gas pressure monitor Drain tank level monitor Automatic flame extinction upon power outage or sudden power interruption Internal fan stop sensor  <b>FURNACE</b> Heating temperature range: Ambient to 3,000°C Heating control system: Drying: Digital current control with automatic temperature calibration function Ashing, Atomization: Digital temperature control via optical sensor Setting heating conditions: Maximum 20 stages Heating mode: RAMP/STEP Inner gas type: Dual automatic switching type High-sensitivity mode setting Enrichment in furnace: Maximum 20 times Optimum temperature program search support function Inner gas flow rate: 0 to 1.50 L/min Safety measures: Cooling water flow rate monitor Gas pressure monitor Overcurrent protection unit (double check by circuit protector and optical sensor) Furnace block cooling check Heat protection function Positioning: AA-7800G / AA-7800F Lateral/vertical manual adjustment AA-7800F/AAC			-

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Stock/ Property No.	Unit	Particulars	Quantity	Unit Cost	Amount
		<p>Automatic flame/furnace switching by motor Power requirements: 220VAC±5%, 7400 VA, 50/60 Hz Dimensions and weight: 230 W x 560 D x 507 H mm, 50 kg</p> <p><b>One Autosampler for Both Flame and Furnace</b> Control: RS-232C communication control from AA unit Maximum reagent/sample positions: Reagents: 8 positions Samples: 60 positions (random access available with reagents or samples) Rinse water bottle: 2 L Power requirements: Choose from 220VAC, 50 VA, 50/60Hz</p> <p><b>FLAME CONTINUOUS METHOD</b> Functions: Zero-point detection, auto diagnosis, auto rinse, random access Sample volume: Sample vials: 15 mL, reagent vials: 53 mL Nozzle rinse: Solvent rinse aspiration method</p> <p><b>FURNACE METHOD</b> Functions: Zero-point detection, auto diagnosis, auto rinse, auto mixing, random access Sample volume: Sample vials: 2 mL, reagent vials: 20 mL Nozzle rinse: Solvent rinse discharge method Sampling functions: Dilution function, reagent addition function Syringe: 250 uL Injection volume: 2 to 90 uL Repeatability: 1%RSD (20uL) Carryover: Rinse port: Less than 0.0001 Mixing port: Less than 0.00001 Mixing port rinse: Solvent rinse discharge method, solvent discharge and rinse with next sample Mixing function: Performed in mixing port. Maximum mixture Volume: 0.6 mL Maximum number of mixing reagents added: Up to 4 solutions Number of solutions possible for mixing Calibration curve method: 5 solutions max. (sample + 4 types of reagents)</p>			-



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Stock/ Property No.	Unit	Particulars	Quantity	Unit Cost	Amount
		Standard addition method: 6 solutions max. (sample + standard solution + 4 types of reagents) Auto dilution / re-analysis: For measurement result on unknown samples: If extrapolation of calibration curve is possible: automatic calculation of dilution rate and dilution to bring concentration within calibration curve range If extrapolation of calibration curve is not possible: dilution rate fixed at 10x			-
		<b>Camera unit</b> Imaging Device: CMOS sensor (color) No. of output pixels: 640 x 480 (VGA) 320 x 240 (QVGA) Exposure/Gain/White Balance: Automatic adjustment Transmission Rate: 30 frames/sec (VGA) Interface: USB 2.0 (direct connection to PC) Screen Resolution: XGA (1024 x 768 dots) min. I/O Port: One USB 2.0 port			
		<b>OPERATIONAL ACCESSORIES INCLUDED:</b>			
	set	Complete PC system, i5 core with Windows 11 Pro (OS: compatible with equipment software), RAM: 8 GB, 1 TB SSD, 24 inches monitor	1		
	set	Multi-functional wireless printer Printer with colored printing, scanning, and copying, includes automatic document feeder	1		
	set	Includes MS Office (Word, Excel, Powerpoint) lifetime license, compatible with equipment software	1		
	set	Computer accessories which include but not limited to mouse, keyboard, UPS/AVR	1		
	set	TB portable external hard drive with USB cable (for back-up of data)	1		
	set	Argon stainless steel gas line (30-35 m) with 2 gas regulators	1		
	set	1 Argon gas tank with 2 refills (Ultra High Purity grade)	1		
	set	Acetylene stainless steel gas line (30-35 m) with 2 gas regulators	1		
	set	1 Acetylene gas tank with 4 refills (Ultra High Purity grade)	1		
	set	Silent Type oil-less air compressor	1		
	set	Dual stage air filter for the gas lines of argon and acetylene	1		

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Stock/ Property No.	Unit	Particulars	Quantity	Unit Cost	Amount
	set	Exhaust system (Exhaust fan, Canopy hood, Ducting, Chimney)	1		-
	set	Cooling Water Circulator	1		
	set	High-density graphite tube, 10pcs	1		
	set	Pyrolytic graphite tube, 10pcs	1		
	set	15ml Autosampler vials for AAS, 500pcs	1		
	set	50ml Autosampler vials for AAS, 500pcs	1		
	set	Deuterium Lamp	1		
	set	6 KVA UPS with 30mins back-up and 6 KVA AVR (220 V, wattage depending the equipment, with 2-3 outlets, has visual indications, metal casing)	1		
	set	Includes supply and installation of circuit breaker and other needed electrical materials	1		
	set	Equipment table with 2 drawers, black with beveled edge is heat/acid/chemical/stain/scratch/ impact/wear resistant, dimensions is based on the equipment	1		
	set	Laboratory chair (polyurethane foam seat and back with 6mm thickness seat and back, chrome base and stainless steel foot with seat height adjustment)	1		
	set	Laboratory dehumidifier, 24L (capable of extracting 24 L of water per day from the atmosphere, mounted on rubber wheels with lock for anti-slip and low vibration, silent operation, working range humidity: 49-100% RH, working range temperature: 5-35°C, Amount of air: 18m/h, tested by TUV and carries the GS mark for approved safety)	1		
	set	Multiple Power Outlet (5 meters in length, wattage depending the equipment, 5 outlets)	1		
	set	AAS Preventive Maintenance Kit	2		
	unit	Bottle top dispenser for 1-10 mL volume capacity with recirculation valve, can dispense aggressive reagents, including concentrated bases and acids, saline solutions, as well as many organic solvents, include 3 pcs 250 mL glass bottle	3		
	set	1 unit of Pipettor for 100-1000 µL and 1 unit of Pipettor 20-200µL volume capacity (biocompatible, universal tip cone, adjustable volume, with conformity certification and performance certificate, accuracy is 0.6% and repeatability or coefficient of variation is 0.2%, include calibration certificate from ISO 17025 accredited laboratory)	1		
	set	96 pcs Pipet tips, Polypropylene (PP), Blue, pointed/ narrow tip, non-pyrogenic; Rnase/Dnase-free 100-1000µL with 1 tip box for 100-1000µL pipette tips	1		



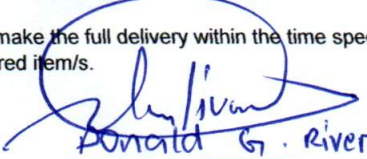


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	set	96 pcs Pipet Tips, Polypropylene (PP), Yellow, non-pyrogenic; Rnase/Dnase-free 20-200µL with 1 tip box for 20-200µL pipette tips	1		-
	set	30 mL wide mouth HDPE bottles, 60 pcs	1		
	set	3 bottles of Palladium Nitrate, 100mL, 10000mg/L (modifier)	1		
	set	3 bottles Magnesium Nitrate, 100mL, 10000mg/L (modifier)	1		
	set	3 bottles Ammonium phosphate, 100mL, 10000mg/L (modifier)	1		
	set	Hollow cathode lamp	1		
	set	Arsenic, As; Aluminum, Al; Cadmium, Cd; Calcium, Ca; Cobalt, Co; Chromium, Cr; Copper, Cu; Iron, Fe; Potassium, K; Magnesium, Mg; Manganese, Mn; Sodium, Na; Silver, Ag; Nickel, Ni; Lead, Pb; Selenium, Se; Silicon, Si; Titanium, Ti and Zinc, Zn			
	set	Individual AAS Standards (traceable to SRM of NIST), 1,000 mg/l, 100mL for the following elements: Arsenic, As; Aluminum, Al; Cadmium, Cd; Calcium, Ca; Cobalt, Co; Chromium, Cr; Copper, Cu; Iron, Fe; Potassium, K; Magnesium, Mg; Manganese, Mn; Sodium, Na; Silver, Ag; Nickel, Ni; Lead, Pb; Selenium, Se; Silicon, Si; Titanium, Ti and Zinc, Zn (with expiration until December 2026)	1		
		Equipment Warranty: two (2) years on parts and services of the Graphite Furnace and Flame Atomic Absorption Spectrophotometer (with Accessories) against defects after acceptance by the Procuring Entity of the delivered goods. Annual preventive maintenance services for two (2) years to the Graphite Furnace and Flame Atomic Absorption Spectrophotometer (with accessories) included in the warranty. Maintenance kits included during preventive maintenance. Availability of spare parts: System have a five (5) year value guarantee on parts and comprehensive services. Installation and Commissioning: Installation (both hardware and software), testing, and commissioning and training on operation, maintenance, and troubleshooting (with training certificates) On-site Training: Operational training: training on operation, data analysis, troubleshooting with the assigned application chemist. Others: Support of local engineers and application chemist with experience and training relevant to Graphite Furnace and Flame Atomic Absorption			

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		Spectrophotometer (with Accessories) with full on-site technical support. On-call within the lifetime of the equipment			-
		With specialized tools for routine maintenance and simple troubleshooting. Instrumix Supplier Inc must perform site preparation/verification inspection prior to delivery of the instrument. Instrumix Supplier Inc have 7 factory trained engineer, and 3 application chemist dedicated to GFAAS (Note: engineer and application chemist have certificate of trainings on the quoted instrument). Operational training for training on operation, data analysis, troubleshooting with the assigned application chemist at DOST-ITDI for 25 participants. Necessary supplies enough for the conduct of the operational training (e.g. gases, standard to use for trial run, sample generation reagent and materials)			
					6,188,000.00
			Less: VAT	276,250.00	
			EWT	55,250.00	331,500.00
			TOTAL:		5,856,500.00
END USER: JOHANNA ANDREA VALDUEZA					
(Total Amount in Words) : Five Million Eight Hundred Fifty Six Thousand Five Hundred Pesos only					
<p>In case of failure to make the full delivery within the time specified above, a penalty of one-tenth (1/10) of one percent for every day of delay shall be imposed on the undelivered item/s.</p> <p>Conforme:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p> Signature over Printed Name of Supplier February 3, 2025 Date</p> </div> <div style="width: 45%;"> <p>Very truly yours,  <b>DR. ANNABELLE V. BRIONES</b> Signature over Printed Name of Authorized Official Director Designation</p> </div> </div>					
Fund Cluster : GAA FY 2025			ORS/BURS No. : _____		
Funds Available : _____			Date of the ORS/BURS: _____		
<p> <b>PATRICIA ASHLEY M. MENDOZA</b> Signature over Printed Name of Chief Accountant/Head of Accounting Division/Unit Accountant IV</p>			Amount : _____		