

PURCHASE ORDER

INDUSTRIAL TECHNOLOGY DEVELOPMENT INSTITUTE

12691 CF

Supplier :	LABTRADERS, INC.	P.O. No. :	2018-09-0466 (GFE)
Address :	#89 Jasmin St., Roxas District, Quezon City	Date :	September 18, 2018
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 :	Metrology Building (not later than 4:30 pm)	Delivery Term :	120 days
Date of Delivery :		Payment Term :	

Stock/ Property No.	Unit	Description	Quantity	Unit Cost	Amount
	lot	Supply, Installation, Commissioning and Training on Use of: Model/Cat No.: FMCS 25100 <i>Automated Flow Meter</i> Brand: Nagman Instruments <i>CALIBRATION SYSTEM</i> Origin: India System Operation: Automatic Meter Sizes: DN 25 to DN 100 Number of meter can be calibrated at a time: Test Line 1: One (or) Two Depending on the Sizes & Types of Flow Meters Test Line 2: One Flow Rate: Minimum 8 LPM & Maximum 1500 LPM CALIBRATION MEDIA: WATER Flow Setting Devices 1 No. of each Calibrated & Certified Electromagnetic Flow Meters of Sizes -DN 15 (Flow Range: 2 LPM to 100 LPM) -DN 65 (Flow Range: 40 LPM to 2000 LPM) Calibrated Accuracy: $\pm 0.2\%$ of Reading Number of Test Lines: -Two Test Lines -Through Common Header -Test Line 1: For DN 25 to DN 50 Sizes -Test Line 2: For DN 65 to DN 100 Sizes Meter Clamping: Manually Operated Pneumatic Clamping System. Compressed Air: Compressor-6 Bar, 100 Liters Tank Capacity (Scope of ITDI NML) Collection Tanks (SS) & Weighing Scales a) A 200 Liters Collection Tank mounted on a 150 Kg Weighing Scale / Resolution: 1g covers the Lower ranges. b) A 1600 Liters Collection Tank mounted on a 1500 Kg Weighing Scale/Resolution: 20g covers the Medium & Higher ranges. Diverter Systems: Two Nos. of Open Type Flow Diverter Systems will enable/divert Flow into Collection Tanks/Water Reservoir for Flying Start/Stop Operation without disturbing the Flow Rate. Water Supply: Through Pumps *Water Reservoir (Sump) & Filtration System: Capacity: 10000 Liters (with Suitable Filtration System) - Scope of ITDI-NML Flow Control: Through VFD's (Connected to Pumps) & Electrically Operated Flow Control valves Pressure Measurement: Pressure Transmitters (Inlet/Outlet) Range: 0 to 10 bar Accuracy: 0.2% Temperature Measurement: RTD with Temperature Transmitters Range: 0 to 100°C Timer: Timer will be provided to Set & Measure the Flow campaign Time. Power Supply: 3 Phase, Standard Voltage 380 to 415V AC, 60Hz, 50KW, Single Phase - 230V AC/50 Hz Overall Dimensions Appx. 8 x 5 x 5 meters (LBH)	1	17,998,000.00	17,998,000.00

FINAL REVIEW

Date:

2018-09-19 1:30

APPROVED BY: 09/20 4:08

Appendix 61

PURCHASE ORDER
INDUSTRIAL TECHNOLOGY DEVELOPMENT INSTITUTE

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Supplier :	LABTRADERS, INC.	P.O. No. :	2018-09-0466 (GFE)
Address :	889 Jasmin St., Roxas District, Quezon City	Date :	September 18, 2018
TIN :		Mode of Procurement :	Public Bidding

Gentlemen:

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Date of Delivery :		Payment Term :	

Stock/ Property No.	Unit	Description	Quantity	Unit Cost	Amount
		Construction Materials: Powder Coated mild steel for Header support, Test support. All other wetted parts shall be of SS 304. Electronics Console/Control Panel: Electronics Console / Control panel is powered by 3 phase power supply, Control Panel-To mount the Start / Stop Button, Emergency -ON/OFF, Weighing Indicators, Temperature/Pressure Indicators, VFD Control Knobs, Pumps-ON / OFF, Drain Valve of Collection Tanks - ON/OFF Switches, Remote Indicators for Flow Setting Devices. Computer System-for automatic operation: Computer with NI (National Instruments) module hardware & software - to handle/operate the process & Automatic operation. The Report generation will meet ISO/IEC 17025 format. Features: WATER SUPPLY SYSTEM INCLUDES: RESERVOIR & FILTRATION SYSTEM (Scope of ITDI-NML) -Capacity: 10000Liters (Preferable Underground Storage Tank) -Suitable Inlet & Outlet Pipe Connections. -With This Reservoir Offered Calibration system FMCS 25100 will be able to operate without the availability of an external water supply source Using only the water in the Water Reservoir & on Recirculation Mode. -Relevant Filtration Protects the Quality of Stored Water. PUMPS -Adequate Nos. of Pumps (Low, Medium, High Flow rates) with VFD's will be provided - for maintaining the Pressure & Flow in test system. -These Pumps will draw Water from the Water Reservoir & Pump into Test Section. -Non-Return Valves will be installed at the each Pumps Heads / Delivery Lines to prevent BACK - FLOW. -Pneumatic Operated Butterfly Valves will be provided for Each Pumps to select the desired Pump for water supply. The set of pumps (L, M & H) with Variable Frequency Converters (VFD's) Control the complete water Circulation between the Source Water Reservoir & Collecting Tanks of the Balances. LOW: 1 m3/hr - 1 No. 1.5Kw / 3Phase / 60Hz MEDIUM: 12 m3/hr - 1 No. 3.7 Kw /3Phase /60Hz TEST SECTION -Includes: TEST SECTION - Includes -Test Bed -Clamping System -Pressure & Temperature Measurement Devices			TOTAL CARRIED FORWARD

PURCHASE ORDER INDUSTRIAL TECHNOLOGY DEVELOPMENT INSTITUTE

Supplier :	LABTRADERS, INC.	P.O. No. :	2018-09-0466 (GFE)
Address :	#89 Jasmin St., Roxas District, Quezon City	Date :	September 18, 2018
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 :	Metrology Building (not later than 4:30 pm)	Delivery Term :	120 days
Date of Delivery :		Payment Term :	

Stock/ Property No.	Unit	Description	Quantity	Unit Cost	Amount
		TEST BED -To mount/accommodate Unit Under Test. -Test Bed has Two Test Lines -Test Line 1: For DN 25 to DN 50 Sizes Flow Meters -Test Line 2: For DN 65 to DN 100 Sizes Flow Meters -One (1) or Two (2) (Depending on the Sizes & Types of Flow Meters) Nos. of Flow Meter (UUT) can be calibrated at a time. -Pneumatic Operated Valves will be provided at Upstream & Downstream of the Test Line. -Test Lines / Piping are made of Stainless Steel. CLAMPING -The Flow Meters under Test (UUT's) will be installed on the Test Section and clamped by means of Manually operated pneumatic clamping system. -One No. of Clamping System will be provided for each Test Line. PRESSURE & TEMPERATURE MEASUREMENT DEVICES -Pressure Transmitters will be provided at the Both Upstream / Downstream of the Test Section to measure the Inlet & Outlet Pressure of water. -One No. of Temperature Sensor with Transmitter will be provided in each Collection Tanks to measure the Temperature of Water Collected. -Measurements (Pressure/Temperature) are transmitted to the Control Console by the respective Transmitters. FLOW RATE SETTING UNITS -Flow Rate adjustment will be done by Variable Frequency Drives (VFD's) (Connected to Pumps), Electrically Operated - Flow Control Valve & Electromagnetic Flow Meters -Two Nos. of Calibrated & Certified Electromagnetic Flow Meters will be used as Flow Setting Devices. The Sizes are *DN 15 *DN 65 -Pneumatic Operated Valves will be provided for each Flow Adjustment Lines to select the desired size of Flow Setting Device. -Range of Flow adjustment lines - Line 1: 2 LPM to 100 LPM - Line 2: 40 LPM to 2000 LPM WEIGHING SYSTEMS - Includes -Masters (Balances) -Collection Tanks -To effectively cover the Wide Flow Rates (from minimum 8 LPM to maximum 1500 LPM). In Meter Sizes DN 25 to DN 100 mm, Two Nos. of Weighing Tanks & Two Nos. of Weighing Scale (Balances) will be used. -The Measurement of Errors of the Meters Under Test (UUT) at various flow rates are calculated by Comparing the Volumes read by the meters against Water Collected during Each Campaign - in the Stainless Steel Tanks of Nominal volumes of 200 Liters & 1600 Liters mounted on the Matching Weighing Scales. (The Mass of Collected Water, after Applying Density Correction based on temperature, Yields "Volume"). -Pneumatic Operated Valves will be provided for Drain Lines of Collection Tanks.			TOTAL CARRIED FORWARD

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Appendix 61

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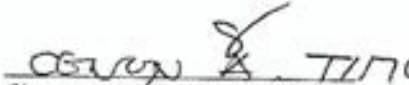
Supplier : LABTRADERS, INC.	P.O. No. : 2018-08-0387 (GFE)
Address : #89 Jasmin St., Roxas District, Quezon City	Date : September 14, 2018
TIN :	Mode of Procurement : Public Bidding
Gentlemen: Please furnish this Office the following articles subject to the terms and conditions contained herein:	

Place of Delivery : Metrology Building (not later than 4:30 pm)	Delivery Term : 120 days
Date of Delivery :	Payment Term :

Stock/ Property No.	Unit	Description	Quantity	Unit Cost	Amount
		FLOW DIVERSION SYSTEMS -Two Nos. of Open Type Flow Diverter Systems will enable / divert Flow into Collection Tanks/Water Reservoir for Flying Start / Stop Operation without disturbing the Flow Rate. ELECTRONIC CONSOLE / CONTROL PANEL -Placed near the Test System as a stand alone Unit. -Electronics Console / Control panel is powered by 3 phase power supply. -Control Panel - To mount the Start / Stop Button, Emergency -ON/OFF, Weighing indicators, Temperature/Pressure Indicators, VFD control Knobs Pump ON/OFF Drain Valve of Collection Tanks -ON / OFF Switches, Remote Indicators for Flow Setting Devices. Note: Compressor with adequate Pressure (6 bar & 100 Liters Capacity)for Pneumatic Clamping System & Pneumatic Operated Valves to be provided by NATIONAL METROLOGY LABORATORY OF THE PHILIPPINES. WARRANTY: For equipment, Two (2) years on parts and on service under normal use. End User: JOSE MARCO D. LATOSA		TOTAL CARRIED FORWARD 17,998,000.00 Less: VAT 803,482.14 EWT 160,696.43 964,178.57 17,033,821.43	

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(Total Amount in Words) Seventeen million thirty three thousand eight hundred twenty one & 43/100.

Conforms:  Signature over Printed Name of Supplier OCT. 2, 2018 Date	Very truly yours,  DR. ROVENA CRISTINA L. GUEVARA Signature over Printed Name of Authorized Official Undersecretary for Research & Development Designation
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Fund Cluster : <u>Regular Fund</u> Metrology Program Project 4: Strengthening the Physical Metrology Capabilities of the National Metrology Funds Available : <u>₱ 17,998,000.00</u>  SOLEDAD S. REYES Signature over Printed Name of Chief Accountant/Head of Accounting Division/Unit	ORS/BURS No. : <u>2018091438</u> Date of the ORS/BURS : _____ Amount : <u>₱ 17,998,000.00</u>
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