

Revised Purchase Order**Sales Tax Exemption**

Texas A&M University is exempt from state and municipal sales taxes under Chapter 20 Title 122A, revised Civil Statutes of Texas, for all purchases made for the exclusive use of Texas A&M.

The laws of the State of Texas shall govern this Purchase Order.

Member of the Texas A&M University System.

Purchase Order			
Purchase Order Date	PO/Reference No.	Revision No.	Revision Date
Mar 6, 2020	AB0526184	1	Mar 16, 2020
Contact instructions for questions regarding this Purchase Order: If Buyer Contact information is listed below, please contact the Buyer. If not, please contact the Customer.			
Buyer Contact:			
Buyer	Buyer Email	Buyer Phone Number	
agc - Constancio, Angel	agc@tamu.edu	979.845.3847	
Customer Contact:			
Name:		TAMU ORDERING DEPT 02-AERO	
Email:		AeroBusinessOffice@aero.tamu.edu	
Phone:		+1 979-845-7541	

Order acceptance instructions:

Vendor guarantees that the products delivered or the services performed as a result of this Purchase Order will meet or exceed all specifications herein. Any exceptions to the pricing or the description contained herein must be approved by Texas A&M's Department of Procurement Services prior to shipping or performance. This Purchase Order is governed by the laws of the State of Texas and Texas A&M's Terms & Conditions, which are available online: <http://purchasing.tamu.edu/suppliers/bids-catalogue-tc-form/>

Supplier Information		Delivery Information	
Supplier Name	NICHWELL LLC	Delivery Address	
Address	750 SHERMAN ST SE ALBANY, OR 97321 US	TAMUS Member:	02-Texas A&M University (02)
Phone	+1 541-250-9190	Attn	Dr. Wong
FOB / FREIGHT	Destination	Testing & Characterization Facility	
Pre-Pay & Add	No	Bldg 1598	
Payment Terms	0, Net 30	Room	134C
Contract Number - Header	<i>no value</i>	1313 Research Pkwy	
Contract Number - Line	<i>no value</i>	College Station, TX 77845	
Quote number		United States	
		Delivery Information	
		Required Delivery Date	Aug 31, 2020
		Ship Via	Best Carrier-Best Way

Notes to Supplier**Shipping Instructions**

Note to Supplier

Department Contact: Andrea Loggins @ 979-862-8112

PO Clauses

Header	001	No Collect Freight Charges Accepted	Neither COD nor "Collect" freight or handling charges will be accepted.
	102	TAMU Terms & Conditions	Terms & Conditions - Texas A&M University -This purchase order is issued on behalf of Texas A&M University and is governed by the Terms & Conditions found online: http://purchasing.tamu.edu/suppliers/bids-catalogue-tc-form/ From this website please select "Texas A&M University" from the drop-down menu.

Line No.	Product Description	Catalog No.	Size / Packaging	Unit Price	Quantity	Ext. Price
1 of 28	Includes a discount of \$11,013.33 - ANGO450 Base System (Advanced PC/PLC Automation) System Frame and Enclosure• Built on a powder-coated solid welded steel enclosurewith a compact footprint• Access to the cabinet is provided through removable	0	EA	11,066.67 USD	1 EA	11,066.67 USD
2 of 28	System Control with Aeres • PC control station with Windows 10 Professional running on an industrial PLC • Angstrom Aires software for unified machine and deposition control built on .NET framework • Aeres provides you with complete control ov	0		0.00 USD	1	0.00 USD
3 of 28	Upgrade for Glovebox Integration • Adds sliding door for direct mounting to a glovebox • Hinged rear access door allows chamber access from the room side	0		800.00 USD	1	800.00 USD
4 of 28	Pator HPV-1300Z hybrid bearing turbopump Inlet Flange:ISO 200 / CF 200 Pumping Speed L/S (N):1,300 Compression Ratio (N):> 10/9 Compression Ratio (H):1 x 10/3 Ultimate Pressure (mbar):10-9 Startup Time (min):6 Rotational Speed (rpm):24,000 Orient	0		4,000.00 USD	1	4,000.00 USD
5 of 28	Pator TRP-36 Rotary Vane 10 cfm Vacuum Pump 1.Excellent ultimate vacuum and pumping speed. 2.Low noise and vibration. 3.Displacement Speed: 540L/min 50Hz 640L/min 60Hz 4.Without gas ballast Patial pressure: 4×10-4Mbar 5.Inlet Port: 25/40KF	0		0.00 USD	1	0.00 USD
6 of 28	Water Cooled Resistive Thermal Evaporator Useful for removing excessive heat during very high temperature and long duration depositions Priced per feed through (2 are required per source)	0		300.00 USD	4	1,200.00 USD
7 of 28	Power supply thermal evaporation Phase-angle fired, SCR controller with soft-start 0–100% adjustable voltage/power output Over-current trip response within 10 ms of event Near 1 second ramp-up of SCR control signal reduces cold start surge Local	0		1,200.00 USD	2	2,400.00 USD
8 of 28	Source Shutter • Automatic process controlled pneumatics shutter • Uses a high quality magnetic fluid rotary feedthrough	0		300.00 USD	4	1,200.00 USD
9 of 28	Point Source Evaporator Deposition Sources for Organic Materials LED-03 Evaporator Deposition Sources • Temperature PID Controller with control to ±0.1°C • 3cc crucible with a 1cc charge capacity • High purity alumina crucible included, line	0		1,800.00 USD	4	7,200.00 USD
10 of 28	LTE Series Power supply Type-K thermocouple input connectors standard (others available) Digital temperature and setpoint Phase-angle fired SCR output Integrated current transducer RS-232 interface for remote PID control Output Power:200W Input V	0		760.00 USD	4	3,040.00 USD
11 of 28	Thin Film Deposition SQM-160 Thin Film Deposition Monitor Thickness and rate:± 0.37 Å Power:100-120/200-240 VAC, 50/60 Hz,	0		1,200.00 USD	1	1,200.00 USD

	20 W The sensor is mounted to a rigid bracket to prevent loss of calibration if accidentally moved The sensor is water-cool					
12 of 28	Masking Capable Substrate Stage Assembly • Precision dowel pins for substrate transfer and mask alignment • Suitable for 100mm x 100mm or Ø150mm or smaller pieces • Custom sample holders available upon request • Source to substrate distanc	0		1,680.00 USD	1	1,680.00 USD
13 of 28	Split 2-Piece Substrate Shutter • Automatic process controlled pneumatic shutters • Uses high quality magnetic fluid rotary feedthroughs α-2400U Standard (2400-4port) Glovebox with gas purification Glove box All-welded 2400mm wide x 900mm high x	0		600.00 USD	1	600.00 USD
14 of 28	Includes discount of \$11,013.34 - Gas Purification1 H2O/O2 purifier column Å Attainable purity:H2O<1ppm ,O2<1ppm Designed to maintain2&H2O.Capacity of 20 liters of O2&2.6kg of moisture before regeneration.Lindy Molecular Sieve,and BASF R3	0	EA	14,786.66 USD	1 EA	14,786.66 USD
15 of 28	T Type Chamber 1 T Type Vacuum chamber made of stainless steel Dia.360mm, Length=700mm 1 T Type Minichamber Dia.100mm, length 300mm right side	0		4,500.00 USD	1	4,500.00 USD
16 of 28	Upgrade for Solar Simulators Test Windows At the bottom of the Glovebox α-1200U Standard (1200-2port) Glovebox with gas purification Glove box All-welded 2400mm wide x 900mm high x 760mm deep-Type 304 Stainless Steel Two Equipped with 9 3/4"buty	0		0.00 USD	1	0.00 USD
17 of 28	Includes discount of \$11,013.33 - Gas Purification1 H2O/O2 purifier column Attainable purity:H2O<1ppm ,O2<1ppmDesigned to maintain2&H2O.Capacity of 20 liters of O2&2.6kg of moisturebefore regeneration.Lindy Molecular Sieve,and BASF R3-11	0	EA	12,786.67 USD	1 EA	12,786.67 USD
18 of 28	Upgrade for Spin Coater Integration At the bottom of the Glovebox Integration	0		0.00 USD	1	0.00 USD
19 of 28	Solvent Removal System The Glove Box shall have an activated carbon based solvent removal system. A minimum of five (5) kg carbon reagent capacity is required to ensure steady operation with minimum maintenance. The solvent removal system shall have an	0		800.00 USD	2	1,600.00 USD
20 of 28	OXY-XT-Z1000, Glovebox Zirconia, Trace PPM Oxygen Aanlyzer	0		1,680.00 USD	2	3,360.00 USD
21 of 28	Michell Instruments Easidew 34 Dew Point Transmitter Measures absolute content of water vapor within an inert environment. Displays in ppm, and dew point.PLC integrated (enables auto-circulation of the purifier)	0		1,800.00 USD	2	3,600.00 USD

22 of 28	Edwardsvacuum RV12, Dual Stage High Capacity Vacuum Pump with Fittings, 110/220V, 50/60 Hz 21.0 cfm vacuum pump with exhaust oil mist filter.	0		2,190.00 USD	2	4,380.00 USD
23 of 28	Box auto purging system Unit for inerting (purging) of the workspace with inert gas Operation: via operation panel of the gas purifier Valves PLC-controlled Flow rate: max. 200 l/min; incl. manual regulation valve for reduction of the gas flow Func	0		0.00 USD	2	0.00 USD
24 of 28	Automatic antechamber control Main antechambers, pressure controlled. Programmable antechamber cycles: - Auto control of cycles - intermediate vacuum for refill - ultimate vacuum	0		0.00 USD	3	0.00 USD
25 of 28	EZ4 Spin Coater With its small footprint, the spin coater can be installed in a fume hood or a glove box. Max Spin Speed:10,000 RPM Speed Resolution:1 RPM Max Spin Time:3,000 S Time Resolution:1 S Chuck diameter:5 inches (according to customer's	0		800.00 USD	1	800.00 USD
26 of 28	On-site installation and training • Includes system start-up • 2-Day operation and maintenance training course	0		5,800.00 USD	1	5,800.00 USD
27 of 28	All Inclusive Warranty • Any defects will be repaired or replaced at no cost including shipping to and from the customers site • The warranty period of 12 months from acceptance at site or 15 months from the shipment • Lifetime telephone and on	0		0.00 USD	1	0.00 USD
28 of 28	Shipping	0		2,000.00 USD	1	2,000.00 USD
				Total	88,000.00 USD	

Billing Information	Billing Address
<p>To assure timely payment please e-mail invoices to the email provided in the bill to address. If the invoice is sent via email, please do not send a duplicate copy through the mail. Only if email is not an option then submit invoices to the billing address indicated in the "Billing Address" section. To inquire about electronic invoicing via cXML, CSV or PO flip through the supplier portal, e-mail abvendedorhelp@tamu.edu.</p> <p>Invoice must include the PO/Reference number shown above.</p>	<p>Texas A&M University-Accounts Payable</p> <p>***Do Not Mail Invoices***</p> <p>Email invoices to invoices@tamu.edu</p> <p>750 Agronomy Road - Suite 3101</p> <p>6000 TAMU</p> <p>College Station, TX 77843-6000</p> <p>United States</p>