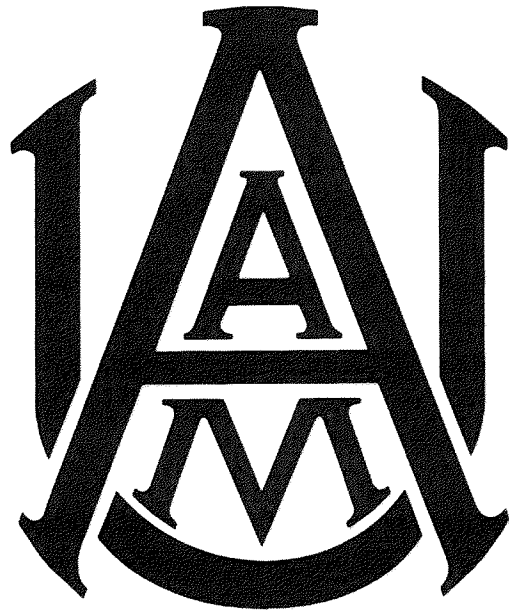


Alabama A&M University



Atomic Layer Deposition (ALD) System
for Electrical Engineering and Computer
Science Department

Invitation to Bid (ITB) – 2K18-05B

Deadline: December 12, 2017 – 2 P.M. CST

Alabama A&M University

Atomic Layer Deposition (ALD) System for Electrical Engineering and Computer Science Department Bid

Bid No. 2K18-05B

INTRODUCTION

Alabama A&M University (“University”) is seeking bids from qualified vendors to provide the Electrical Engineering and Computer Science Department with one (1) Atomic Layer Deposition (ALD) System. The ALD System offered must meet all of the technical specifications provided in this bid package. **Bidders are recommended to quote the most cost effective ALD System their company offers that meets the requirements provided.**

Bidders should provide a quotation of the equipment requested on the official proposal sheet found in this bid package. Bidders should include in their bid response a full detailed specification of the ALD System proposed to provide item number(s), functionality, capabilities, etc. as attached documents. When compared to the requirements provided, these aforementioned considerations will be used to determine the lowest responsible bidder.



Purchasing Department
P. O. Box 1627
Normal, Alabama 35762
(256) 372-5227 Office
(256) 372-5223 Fax

GENERAL CONDITIONS & GUIDELINES

1. **Requirements:** Alabama Agricultural and Mechanical University (“AAMU”, “the Awarding Authority”) must receive each vendor’s bid/proposal package by mail or hand delivered no later than 2:00 P.M. Central Time on the bid/proposal submission deadline, which will also be the date and time of the bid/proposal opening. Unless otherwise noted, the bid/proposal opening will take place at:

Alabama Agricultural and Mechanical University
Purchasing Department
4900 Meridian Street
Patton Hall, Room 305
Normal, AL 35762

All bids/proposals received must be provided in a sealed envelope. (Ala. Code § 41-16-54 (b)) A faxed or emailed bid/proposal does not meet the requirements of the statute because it is not sealed, and all such bids/proposals will be deemed ineligible for award. (Attorney General’s Opinion # 91-016)

Mailed sealed bids/proposals sent to the Purchasing Department by logistics carriers such as FedEx, UPS, DHL, Airborne Express, and the U.S. Postal Service (USPS) must be sent to the following address:

Alabama A&M University
Purchasing Department
4900 Meridian Street
Patton, Hall, Room 305
Normal, AL 35762

2. **Bid/Proposal Preparation:** Alabama Agricultural and Mechanical University bid/proposal forms must be completed and returned as a part of the bid quote/proposal. Bids/proposals should be as thorough and detailed as possible so that AAMU may be able to properly evaluate a bidder's capabilities to provide the required products or services. All bidders must send descriptive literature and/or manufacturer's specifications along with any supplemental specifications necessary to compare the items bid/proposal with the requirements set forth in the bid/proposal form. **All bids/proposals must be submitted within a sealed package with the bid number, opening date and time, and bidder's name and address clearly indicated on the envelope.** Bidders are required to submit all items required in the bid/proposal package.

An authorized representative of the Bidding Agency shall sign ITB bid/proposal documents. All information requested must be submitted. Failure to submit all information requested may result in rejection of the bid/proposal. Mandatory requirements are those required by law or regulation or are such that they cannot be waived and are not subject to negotiation.

All supporting documentation submitted with the bid/proposal should be bound in that single volume.

Ownership of all data, materials, and documentation originated and prepared for the University pursuant to the ITB shall belong exclusively to AAMU and be subject to public review.

3. **Oral Presentation:** Bidders who submit a bid/proposal in response to this ITB/proposal may be required to give an oral presentation of their bid/proposal to the Awarding Authority. This will provide an opportunity for the Bidding Agency to clarify or elaborate on the bid/proposal but will in no way change the original bid/proposal. If an oral presentation is to be required, the Awarding Authority will schedule the time and location of these presentations. Oral presentations are an option of the Awarding Authority and may not be required to be conducted.
4. **Bid Bonds:** It is required for any contract exceeding \$10,000 that the bidder submit with his or her bid a bid bond payable to Alabama A&M University in the amount not less than five percent (5%) of the base bid/proposal to not exceed \$10,000. Bid bonds must be submitted in a form of a cashier's check, certified check, postal money order, irrevocable letter of credit, or U.S. Treasury Notes in lieu of a bid bond. No personal checks or company checks will be accepted. If a bid bond, when required, is not included in a bid package, the bidder's bid package will not receive further consideration.
5. **Award:** Alabama Agricultural and Mechanical University ("AAMU", "the Awarding Authority") reserves the right to accept or to reject any or all bids/proposals and is not bound to accept the lowest bid if that bid is contrary to the best interests of the University. In making an award, intangible factors such as a bidder's service, integrity, conformity with specifications, transportation charges, terms of delivery, facilities, equipment, reputation, and past performance history will be weighed along with the quality displayed

in the samples submitted (Ala. Code § 41-16-57 (a)). Bids may be awarded either item by item, in product groups, or all or none, whichever appears to be in the best interests of the University. Selection shall be made of one bidder deemed to be fully qualified and best suited among those Bidders that submitted bids/proposals on the basis of the evaluation factors included in this ITB. Financial criteria shall be considered, but will not be the sole determining factor. After reviews have been conducted, the Awarding Authority shall select the Bidding Agency which has made the best bid/proposal and shall award the bid/proposal to that Bidding Agency. The Awarding Authority may cancel this ITB or reject any and all bids/proposals at any time prior to an award.

A bid/proposal accepted in error as the lowest responsible bid/proposal is null and void and AAMU, upon discovery of the error, may accept the lowest bid/proposal and award the contract to that bidder. (Attorney General's Opinion # 2002-071)

Under Ala. Code § 41-16-57 (c), the Awarding Authority may consider lifecycle costs in making its determination of the lowest responsible bidder.

Under Ala. Code § 41-16-57 (b), the Awarding Authority shall give preference to commodities produced in Alabama or sold by Alabama companies provided there is not a loss in price or quality. However, when the lowest bidder is a foreign entity, meaning that the vendor does not have a place of business within the State of Alabama, AAMU may award the contract to an "in-state" responsible bidder if his or her bid/proposal is within ten percent (10%) of the foreign entity's lowest responsible bid/proposal. AAMU may also award the contract to any of the following "in-state" responsible Bidders that are within ten percent (10%) of the foreign entity lowest bidder:

- A. A woman-owned enterprise
- B. A small business enterprise
- C. A minority-owned business enterprise
- D. A veteran-owned business enterprise
- E. A disadvantaged-owned business enterprise

If an "in-state" vendor is not within ten percent (10%) of the foreign entity lowest responsible bidder, the contract will be awarded to the foreign entity.

6. **Second Lowest Responsible Bidder:** An Awarding Authority can award the bid/proposal to the second lowest responsible bidder if the lowest responsible bidder defaults on the contract after the award has been made, but only under any of the following circumstances:
- A. The lowest responsible bidder notifies the Awarding Authority in writing that he or she will no longer comply with the contract's terms.
 - B. The Awarding Authority documents the default in writing.

The second lowest responsible bidder shall only receive the award given that he or she agrees to all the terms and conditions in the original bid/proposal.

7. **Bid/Proposal Withdrawal:** No bids/proposals may be withdrawn without approval from Alabama Agricultural and Mechanical University's Purchasing Department. Any requests for withdrawal must be in writing to the Purchasing Department within five (5) days after the bid/proposal opening date with justification or reason for the withdrawal. More than two (2) such requests could result in removal from our bid/proposal list. No bid/proposal may be withdrawn after the issuance of a purchase order. If a withdrawal is made after the purchase order is issued, the vendor will be considered in default. Refer to "Default of Contractor."

Alabama Agricultural and Mechanical University may remove any vendor from the Bidders List after a vendor fails to respond to three consecutive Invitation to Bid/proposal (ITB) requests.

8. **Bid/Proposal Rejection:** The Awarding Authority may reject any bid/proposal if the price is deemed excessive or the quality of the product inferior. (Ala. Code § 41-16-57 (c)) In the event only one bidder responds to an invitation to bid/proposal, the Awarding Authority may reject the bid/proposal and negotiate the purchase or contract, provided that the negotiated price is lower than the bid/proposal price and there are no change in specifications. (Ala Code § 41-16-50 (a) and Attorney General's Opinion # 98-140). In the event only one bidder responds to an invitation to bid/proposal, the Awarding Authority may also advertise for and seek other competitive bids/proposals. Where only one responsible and responsive bid/proposal is received, AAMU may only negotiate for a price lower than the single bid/proposal received.
9. **Prices and Payment Terms:** Bidders should quote applicable cash discounts. The University will not take into consideration in the bid/proposal evaluation any cash discount of less than thirty (30) days of duration. However, we will take advantage of all discounts for which we are eligible. Identify these discounts in your bid/proposal response. Bids/proposals containing "payment in advance" or "cash on delivery (COD)" requirements may be rejected.
10. **Applicable Law:** It is agreed that this quotation is valid to the extent that it does not violate the constitution or the laws of the State of Alabama.

Bidder represents and warrants that all article and services covered by this bid/proposal meet or exceed the safety standards established and promulgated under the Federal, Occupational Safety and Health Act of 1970, No. 2006, and its regulations in effect or proposed as the date of this bid/proposal.

The furnishing of materials, supplies, equipment, or service to Alabama Agricultural and Mechanical University under this purchase order, contract, solicitation for bids/proposals, or construction specification constitutes assurance by the vendor or contractor of his compliance with applicable provisions of an pertinent regulations promulgated under Executive Order 11246, date September 28, 1965 issued by the President of the United States of America, and Public Law 88-352, 88th Congress, the "Civil Rights Act of 1964."

11. **Non-Collusion:** Any agreement or collusion among Bidders or prospective Bidders in restraint of freedom of competition, by agreement to bid/proposal at a fixed price or to refrain from bidding, or otherwise, shall render the bids/proposals of such Bidders void. Each bidder certifies that he has not been a party to such an agreement by signing this bid/proposal.
12. **New Products:** Unless specifically called for in the bid/proposal, all products for purchase must be new, never previously used, and the current model and/or packaging. No remanufactured or refurbished, demonstrator, used, or irregular product will be considered for purchase unless otherwise specified in the bid/proposal. The manufacturer's standard warranty will apply unless otherwise specified in the bid/proposal. All requests should be supplied complete, ready to be installed, including all cabling and connectors, where applicable.
13. **Bonds:** Bid/proposal and performance security bond, when required will be indicated.
14. **Bid/Proposal Submission:** Failure to submit a bid/proposal on the official Alabama Agricultural and Mechanical forms provided for that purpose shall be a cause for rejection of the bid/proposal. Return of the complete document is required. Modification of or additions to any portion of the solicitation may be cause for rejection of the bid/proposal; however, AAMU reserves the right to decide, on a case-by-case basis, in its sole discretion, whether or not to reject such a bid/proposal as non-responsive.

Before submitting proposal, each Bidder shall examine carefully all documents pertaining to the purchase.

Submission of bid will be considered presumptive evidence that the Bidder is conversant with the requirements of the documents and has made due allowance in his or her bid for all contingencies.

All information shall be typewritten or handwritten in the appropriate spaces on the forms. Mistakes may be crossed out and corrections inserted before submission of your bid/proposal. Corrections shall be initialed in ink by the person signing the bid/proposal.

All bids/proposals must be submitted in a sealed envelope bearing on the outside the name and address of the vendor, proposal number, name of the project, and date.

All bids/proposals must be signed. Failure to do so will result in rejection of the bid/proposal.

15. **Delivery:** Time of delivery shall be stated as the number of calendar days following receipt of the order by the vendor, to receipt of the goods by Alabama Agricultural and Mechanical University.

Delivery time may be a criterion in awarding bids/proposals. Specify earliest possible delivery after receipt of order. Failure to deliver within the time the vendor specified in

the bid/proposal will constitute a default and may cause cancellation of the contract. Refer to "Default of Contractor."

All prices quoted are to include Free on Board (F.O.B.) shipping to Alabama Agricultural and Mechanical University, Central Receiving Building, 453 Buchanan Way, Normal, AL 35762 (unless another F.O.B. point is stated by the University on the bid/proposal form). The successful bidder must assume all responsibility for damage in transit. When installation is required, it will be stated in the bid/proposal requirements. If you are not quoting a delivered price, you must indicate your shipping provider / logistics carrier and all related transportation costs itemized in your bid/proposal for evaluation purposes.

16. **Bid/Proposal Terms:** Bidders must show unit prices, extensions, and total price, where applicable. In the event of a discrepancy between the unit price and the extension, the unit price shall govern. Bids/proposals shall remain firm for a minimum of thirty (30) days from the date of bid/proposal opening and any exceptions must be clearly stated.
17. **Bid/Proposal Opening:** Bidders may attend the bid/proposal opening, but no information or opinions concerning the ultimate award will be given at the bid/proposal opening or during the evaluation process. After the public opening of this bid/proposal, the results will not be available to Bidders not attending the opening until after an award is made.
18. **Bids/Proposals are Public Record:** All bids/proposals become a matter of public record at bid/proposal award. Alabama Agricultural and Mechanical University accepts no responsibility for maintaining confidentiality of any information submitted with bid/proposal whether labeled confidential or not.
19. **Standards of Quality:** When a material, article, or piece of equipment is identified in these specifications by reference to manufacturer's or vendor's name, trade name, catalog, and stock numbers, etc., it is intended merely to establish a standard; and, any material, article or equipment of other manufacturer and vendor which will perform equally the duties imposed by the general design, provided the material, article, or equipment proposed, is in the opinion of the Purchasing Agent of equal substance and function. It shall not be purchased or installed by the contractor without the Purchasing Agents' written approval.

The bidder is responsible to clearly and specifically indicate the product being offered and to provide sufficient descriptive literature, catalog cuts and technical detail to enable AAMU to determine if the product offered meets the requirements of the Invitation to Bid/proposal (ITB). Normally in competitive sealed bidding only the information furnished with the bid/proposal will be considered in the evaluation. Failure to furnish adequate data for evaluation purposes may result in declaring a bid/proposal non-responsive. Unless the bidder clearly indicates in its bid/proposal that the product offered is an "Equal" product, such bid/proposal will be considered to offer the brand name product referenced in the invitation. References to manufacturers, suppliers, catalog numbers, etc.

are intended to establish quality standards and does not exclude bids/proposals from others as long as quality standards are met. Offers of equal items must state the brand and quality standard. Alabama Agricultural and Mechanical University will be the sole judge of Equal items bid.

20. **Vendor Authorization:** Vendor must be an authorized distributor/agent to sell products proposed in this bid/proposal request. When it is deemed to be in the best interest of the University, the Purchasing Department may request an on-site premise visit to examine the facility.
21. **Default of Contractor:** Where the University has determined the contractor to be in default, the University reserves the right to purchase any or all products or services covered by the contract on the open market and to charge the contractor with cost in excess of the contract price. Until such assessed charges have been paid, no subsequent bid/proposal from the defaulting contractor will be considered.
22. **Fiscal Funding Clause:** The continuation of this contract is contingent upon the appropriation of funds to fulfill the requirements of the contract by the legislature. If the legislature fails to appropriate sufficient monies to provide the continuation of a contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.
23. **Contract Cancellation:** The Purchasing Department has the right to cancel any contract, in accordance with Purchasing Rules and Regulations, for cause, including, but not limited to, the following: (1) failure to deliver within the agreed upon contract duration; (2) failure of the product or service to meet specifications, conform to sample quality, or to be delivered in good condition; (3) misrepresentation by the contractor; (4) fraud, collusion, conspiracy, or other unlawful means of obtaining any contract with the state; (5) conflict of contract provisions with constitutional or statutory provisions of state or federal law; and (6) any other breach of contract.
24. **Warranties:** Should merchandise described on this bid/proposal contain a manufacturer's warranty, Bidders must state the warranty terms in the space provided on the bid/proposal. Bids/proposals offered for merchandise when no warranty applies must clearly state: "NO WARRANTY COVERAGE." Warranty information may be criteria in making this award. Failure of Bidders to furnish this data may cause rejection of the complete bid/proposal as being non-responsive.
25. **Disclosure Statement:** The successful bidder will be required to file with the Purchasing Department a disclosure statement of relationship between contractors/grantees and employees/officials of the University. This form must be completed prior to issuance of the Purchase Order by Alabama Agricultural and Mechanical University.



Purchasing Department
P. O. Box 1627
Normal, Alabama 35762
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Certification Pursuant To Act No. 2006-557

The following statement is applicable to all Requests for Formal Bid and Contracts for Professional Services that are required on all taxable sales and leases into Alabama:

Alabama Law (Section 41-4-116, Code of Alabama 1975) provides that every bid submitted and contract executed shall contain a certification that the vendor, contractor, and all of its affiliates that make sales for delivery into Alabama or leases for use in Alabama are registered, collecting, and remitting Alabama state and local sales, use, and/or lease tax on all taxable sales and leases into Alabama.

By submitting this bid, the bidder is hereby certifying that they are in full compliance with Act No. 2006-557, they are not barred from bidding or entering into a contract pursuant to 41-4-116, and acknowledges that the awarding authority may declare the contract void if the certification is false.



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Contractor's E-Verify Clause and Affidavit

Effective immediately, this notice shall be included in all Requests for Proposals (RFPs) or Invitations to Bid to provide labor, supplies, or services for Alabama A&M University pursuant to contracts to be signed on or after January 1, 2012.

E-VERIFY – NOTICE (RFP)

The Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, *Code of Alabama (1975) § 31-13-1 through 31-13-30* (also known as and hereinafter referred to as “the Alabama Immigration Act”) is applicable to contracts with Alabama A&M University (the “University”). As a condition for the award of a contract and as a term and condition of the contract with the University, in accordance with § 31-13-9 (a) of the Alabama Immigration Act, any business entity or employer that employs one or more employees shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien and shall attest to such by sworn affidavit signed before a notary. Such business entity or employer shall provide a copy of such affidavit to the University as part of its bid or proposal for the contract along with documentation establishing that the business entity or employer is enrolled in the E-Verify program. The required affidavit form is included at the end of this notice. *A response to this RFP/Invitation which does not include the required affidavit and proof of E-Verify enrollment will be considered non-conforming and non-responsive. The University at its sole discretion may allow a reasonable period, not to exceed ten (10) business days, for non-conforming bids to be amended to comply with the Alabama Immigration Act. However, the University has no duty to alert any bidder that their response is non-conforming in any aspect.*

At the time of execution of the awarded contract, the contractor will be required to execute another affidavit in substantially the same form. In addition, during the performance of the contract, such contracting business entity or employer shall continue to participate in the E-Verify program and shall verify every employee that is required to be verified according to the applicable federal rules and regulations. The contracting business entity or employer shall assure and require that every subcontractor performing under the contract shall also comply with §31-13-9(c), and the contracting business entity or employer shall maintain records that are available upon request by the University, state authorities, or law enforcement to verify its compliance and the compliance of all subcontractors with the requirements of the Alabama Immigration Act. Failure to comply with these requirements may result in breach of contract, termination of the contract or subcontract, and possibly suspension or revocation of business licenses and permits in accordance with §31-13-9 (e) (1) & (2) or in the case of a subcontractor, in accordance with §31-13- 9 (f) (1) & (2).

E-Verify Affidavit

Compliance with the requirements of the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, *Code of Alabama (1975) § 31-13-1 through 31-13-30* (also known as and hereinafter referred to as "the Alabama Immigration Act") is required for Alabama A&M University contracts as a condition of the contract performance. Please provide a duly executed and notarized affidavit in the appropriate form as describe below.

AFFIDAVIT 1

I, _____, a duly authorized officer or agent of _____ (contractor), do execute this affidavit on behalf of _____ (contractor) and by executing this affidavit, the undersigned contractor verifies that it is a sole proprietorship, partnership, corporation or other business entity (circle one) that has no employees.

The undersigned agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to this contract with Alabama A&M University, that the Contractor will secure from such subcontractor(s) verification of compliance with *Code of Alabama (1975) § 31-13-9* in a form substantially similar to this affidavit. Contractor further agrees to maintain records of such compliance and provide a copy of each such verification to Alabama A&M University, at the time the subcontractor is retained to perform such services.

Name of Contractor

Signature of Authorized Officer or Agent of Contractor

Title of Authorized Officer or Agent of Contractor

Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE ____ DAY OF _____, 20__.

Notary Public
My commission Expires: _____

OR

AFFIDAVIT 2

I, Sean E. Armstrong, a duly authorized officer or agent of Kurt J. Lesker Co (contractor), do execute this affidavit on behalf of Kurt J. Lesker Co (contractor) and by executing this affidavit, the undersigned contractor verifies its compliance with the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535 (*Code of Alabama (1975) § 31-13-9*), stating affirmatively that it does not knowingly employ, hire for employment, or continue to employ an unauthorized alien and that the sole proprietorship, partnership, or corporation or other business entity (circle one) which is contracting with Alabama A&M University has registered with and is participating in the federal work authorization program known as "E-verify", web address <https://e-verify.uscis.gov/enroll> operated by the United States Citizenship and Immigration Service Bureau of the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603, in accordance with the applicability provisions of the Alabama Immigration Act.

The undersigned further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to this contract with Alabama A&M University, that the Contractor will secure from such subcontractor(s) verification of compliance with *Code of Alabama (1975) § 31-13-9* in a form substantially similar to this affidavit. Contractor further agrees to maintain records of such compliance and provide a copy of each such verification to Alabama A&M University, at the time the subcontractor is retained to perform such services.

255821

E-Verify Employment Eligibility Verification User Identification Number

Kurt J. Lesker Co

Name of Contractor

Sean E. Armstrong

Signature of Authorized Officer or Agent of Contractor

Technical Sales Manager

Title of Authorized Officer or Agent of Contractor

Sean E Armstrong

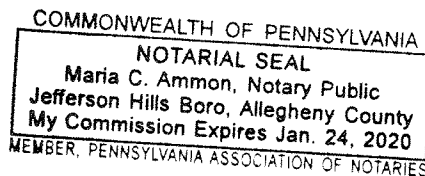
Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE 8th DAY OF December, 2017

Maria C. Ammon

Notary Public

My commission Expires: Jan 24, 2020



Proof of Citizenship Demonstration and Declaration

(To be provided with Affidavit Form 1)

In order for an individual, including an individual who is a sole proprietor, a partner in a partnership, a general partner in a limited partnership, a partner in a non-registered limited liability partnership, or a sole member of a single member limited liability company, who is a U.S. Citizen to receive a public benefit or conduct a business transaction with Alabama A&M University, each such citizen must declare his or her U.S. citizenship by executing the declaration at the bottom of this form, and must demonstrate his or her U.S. citizenship by presenting a legible copy of one of the following items.

Note that if the presented item does not include picture identification, please also provide a copy of a valid form of picture identification, and if the presented item does not show the person's current legal name, please also provide a copy of a supporting document to verify the legal name change. Please check which of the listed items has been provided:

- Driver's license or non-driver's identification card** (issued by Alabama *or* the division of motor vehicles or the equivalent governmental agency of another state within the United States *if* the agency indicates on the applicant's driver's license or non-driver's identification card that the person has provided satisfactory proof of United States citizenship).
- Birth certificate**
- Pertinent pages of a United States valid or expired passport** (identifying the applicant and the applicant's passport number),
- United States naturalization documents or the number of the certificate of naturalization.** (If only the number of the certificate of naturalization is provided, the applicant shall not be awarded any contract until the number of the certificate of naturalization is verified with the United States Bureau of Citizenship and Immigration Services by the designated City Official, pursuant to 8 U.S.C. § 1373(c)).
- Other documents or methods of proof of United States citizenship** (issued by the federal government pursuant to the Immigration and Nationality Act of 1952, and amendments thereto).
- Bureau of Indian Affairs card number, tribal treaty card number, or tribal enrollment number.**
- Consular report of birth abroad of a citizen of the United States of America.**
- Certificate of citizenship** (issued by the United States Citizenship and Immigration Services).
- Certification of report of birth** (issued by the United States Department of State).
- American Indian card, with KIC classification,** (issued by the United States Department of Homeland Security).
- Final adoption decree** (showing the applicant's name and United States birthplace).
- Official United States military record of service** (showing the applicant's place of birth in the United States).
- Extract from a United States hospital record of birth** (created at the time of the applicant's birth indicating the applicant's place of birth in the United States).

CITIZENSHIP DECLARATION

Under penalty of perjury, I, _____, (print name of undersigned) the undersigned do hereby declare that I am a citizen of the United States of America.

(Declarant's Signature and Date)

Verification, Demonstration, and Declaration of Lawfully Present Alien

(To be provided with Affidavit Form 1)

- A. SAVE Verification.** In order for an individual, including an individual who is a sole proprietor, a partner in a partnership, a general partner in a limited partnership, a partner in a non-registered limited liability partnership, or sole member of a single member limited liability company, who is a lawfully present alien to receive a public benefit or conduct a business transaction with the City, the City must verify, using the Systematic Alien Verification of Entitlement (SAVE) Program, that such alien is lawfully present in the United States. In order to obtain such verification, each such alien must provide: (1) **his or her Alien Registration Number**, which is as follows: _____; and (2) **a copy of non-citizen immigration documents.**
- B. Presumptive Lawful Presence.** In order for an individual, including an individual who is a sole proprietor, a partner in a partnership, a general partner in a limited partnership, a partner in a non-registered limited liability partnership, or sole member of a single member limited liability company, who is a lawfully present alien to receive a public benefit or conduct a business transaction on a temporary basis pending final verification, each such alien must declare that he or she is a lawfully present alien, by executing the declaration at the bottom of this form, and must demonstrate presumptive lawful presence, by presenting a legible copy of one of the following items.

Note that if the presented item does not include picture identification, please also provide a valid form of picture identification, and if the presented item does not show the person's current legal name, please also provide a copy of a supporting document to verify the legal name change. Please check which of the listed items has been provided:

- A valid, unexpired Alabama driver's license.**
- A valid, unexpired Alabama non-driver identification card.**
- A valid tribal enrollment card or other form of tribal identification** (bearing a photograph or other biometric identifier).
- Any valid United States federal or state government issued identification document** (bearing a photograph or other biometric identifier, if issued by an entity that requires proof of lawful presence in the United States before issuance).
- A foreign passport with an unexpired United States Visa and a corresponding stamp or notation** (by the United States Department of Homeland Security indicating the bearer's admission to the United States).
- A foreign passport issued by a visa waiver country** (with the corresponding entry stamp and unexpired duration of stay annotation or an I-94W form by the United States Department of Homeland Security indicating the bearer's admission to the United States).

DECLARATION OF LAWFULLY PRESENT ALIEN

Under penalty of perjury, I, _____, (print name of undersigned) the undersigned do hereby declare that I am a lawfully present alien in the United States of America.

(Declarant's Signature and Date)

Section 41-4-116

Taxation on sales and leases of tangible personal property to state agency.

- (a) For the purpose of this division, the following terms shall have the respective meanings ascribed by this section:
- (1) AFFILIATE. A related party as defined in subsection (b) of Section 40-23-190 as that provision exists on January 1, 2004.
- (2) STATE DEPARTMENT or AGENCY. Every state office, department, division, bureau, board, or commission of the State of Alabama.
- (b) A state department or agency may not contract for the purchase or lease of tangible personal property from a vendor, contractor, or an affiliate of a vendor or contractor, unless that vendor, contractor, and all of its affiliates that make sales for delivery into Alabama or leases for use in Alabama are properly registered, collecting, and remitting Alabama, state, and local sales, use, and lease tax, as provided for by Chapter 12, Article 4, and Chapter 23, Articles 1 and 2 of Title 40 or by any local act or ordinance.
- (c) Each vendor, contractor, or affiliate of a vendor or contractor that is offered a contract to do business with a state department or state agency shall be required to certify that the vendor or affiliate is appropriately registered to collect and remit sales, use, and lease tax as required by this section and submit to that state department or agency certification required by the Alabama Department of Revenue.
- (d) Every bid submitted and contract executed by the state shall contain a certification by the bidder or contractor that the bidder or contractor is not barred from bidding for or entering into a contract under this section and that the bidder or contractor acknowledges that the contracting state agency may declare the contract void if the certification completed is false.
- (e) Each vendor or contractor that sells or leases tangible personal property to a state department or agency, and each affiliate of that vendor or contractor that makes sales for delivery into Alabama, shall be required to collect and remit the Alabama sales, use, or lease tax on all its sales and leases into the state.
(Act 2006-557, p. 1281, §1.)

Technical specifications

<p>Configuration</p>	<p>Reactor plus the following options:</p> <ul style="list-style-type: none"> Single wafer load lock Multi wafer cassette load lock Glovebox interface Load lock and Glovebox interface Multi wafer cassette load lock with glovebox interface Cluster system
<p>Operational Modes</p>	<ul style="list-style-type: none"> Dynamic Variable Residence Time Static Plasma Enhanced
<p>Substrate size</p>	<p>Up to 150mm</p>
<p>Substrate Heater Temperature</p>	<p>500°C 150mm substrate heater (Temperature uniformity across 150mm Si substrate <+/- 3%)</p>
<p>Disposition Uniformity</p>	<p>1 σ Uniformities Thermal Al₂O₃ – 1.5% Plasma Al₂O₃ – 1.5%</p>
<p>Plasma</p>	<ul style="list-style-type: none"> Remote Plasma Source with 1KW RF power supply 6 plasma gas lines Dedicated MFC for each plasma gas line Reactant bypass network User Gas Compatibility PLC to prevent unwanted/unsafe mixing of gases in reactor. High Vacuum Pump/purge each reactant line through load lock All manual isolation valves are LOTO compatible

Technical specifications

<p>Precursor</p>	<p>5 independent vapor delivery ports to a top plate reactor.</p> <p>Precursor delivery to reactor is through a dispersion plate.</p> <p>10 precursor lines standard, optional 15 lines. *1 Flow Through Source as part of standard.</p> <p>Individual precursor zone heating to 200°C</p> <p>Ability to control hazardous gas phase precursors between 5-100Torr.</p>
<p>Precursor Delivery</p>	<p>Uses Focusing Technology for focusing of precursor gas/vapor onto a substrate surface for process performance</p> <p>Each Independent delivery line to port has its own heater control</p> <p>Heater zones <+/-5% uniformity up to 200°C</p>
<p>ALD Valve Speed/Control</p>	<p>Industry standard high speed ALD valve (10ms minimum pulse time)</p> <p>Valve dose/pulse resolution of 0.5ms</p> <p>True Precision Timing from independent hardware timing module</p>
<p>Controls</p>	<p>Standalone Real Time Controller (RTC) executes equipment automation</p> <p>RTC provides uninterrupted operation, independent of the Windows Computer and User Interface status</p> <p>PC provides supervisory interface to RTC, facilitates monitoring and manual actuation of vacuum, transfer, maintenance, and deposition process components</p> <p>Four standard user security levels with user access assignable to controls via user security level</p>



ALABAMA AGRICULTURAL AND MECHANICAL UNIVERSITY
 PURCHASING DEPARTMENT
 POST OFFICE BOX 1627
 305 PATTON HALL
 NORMAL, ALABAMA 35762
 TELEPHONE: (256) 372-5227

DATE 11/30/2017	BID NUMBER 2K18-05B
--------------------	------------------------

ALL BIDS WILL BE PUBLICLY OPENED ON THE OPENING DATE DESIGNATED AT ALABAMA AGRICULTURAL AND MECHANICAL UNIVERSITY, PURCHASING DEPARTMENT, PATTON HALL, NORMAL, ALABAMA 35762. BIDS RECEIVED AFTER THE SPECIFIED TIME ON THE OPENING DATE WILL NOT BE CONSIDERED.

RESPONSE DUE BY
 12/12/2017
 2:00 P.M.

REQUEST FOR FORMAL BID

WHEN USING FEDEX, UPS, OR ANY EXPRESS PACKAGING/SHIPPING, THE BID NUMBER MUST BE CLEARLY PRINTED ON THE AIR BILL.

CONTACT **Tim Thornton** PHONE 256 372-5227

VENDOR NO. A00242541

V
E
N
D
O
R
Kurt J. Lesker Company
 1925 Route 51
 Jefferson Hills, PA 15025

ALL BIDS MUST BE SIGNED, SEALED, AND RETURNED IN AN ENVELOPE WITH THE BID NUMBER AND OPENING DATE NOTED ON FRONT. FORWARD ALL BIDS TO THE ADDRESS INDICATED ABOVE. FAILURE TO COMPLY WILL RESULT IN A "NO BID" RESPONSE IN ACCORDANCE WITH ALABAMA COMPETITIVE BID LAW 41-16-24 sub-part b.

THE ABOVE BID NUMBER MUST APPEAR ON ALL BIDS AND RELATED CORRESPONDENCE

NO.	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	EXTENSION
1	1	EA	Atomic Layer Deposition (ALD) System meeting defined Technical Specifications - Name the brand, model number, and any other unique identifying inventory item number or unit number to identify the quoted item. Feel free to use the additional fillable textboxes available, if needed.		
1	1	EA	ALD-150LX per SQ_130379 NOT6, attached	\$398,625	
1	1	EA	Crate Fee:	\$1,860	
1	1	EA	Estimated Freight Charges to Alabama	\$1,400	
1	1	EA	Preferred Customer Discount	-\$25,000	
TOTAL				\$376,885	

SHOULD A PURCHASE ORDER BE ISSUED, THE FOREGOING AND THE TERMS AND CONDITIONS ON THE ATTACHED SHEET SHALL BE APPLICABLE AND BINDING UPON THE VENDOR.
 I ACKNOWLEDGE THAT I HAVE SIGNATURE AUTHORITY TO SIGN ON BEHALF OF THE COMPANY AND HEREBY AGREE TO ALL GENERAL CONDITIONS OF THIS BID REQUEST.

SIGNATURE *Sen Sat*
 COMPANY REPRESENTATIVE

DATE 12-8-17
 An affirmative action/equal opportunity institution

Technical specifications

Single wafer Load Lock	Ultra High Purity transfer under laminar conditions ~ 1Torr Base pressure of 5×10^{-7} (clean and dry) Fully automated transfer from load lock to ALD reactor.
Compatibility	Clean Room Class 10 or 1000 Compatible
Spectroscopic Ellipsometer Ports	Yes, standard.
Vacuum Pump	>40CFM wet pump part of base system Foreline Purge/Vent
Dimensions	2528 x 920 x 2024 mm
System Options	Optical Emission Spectrometer Ozone Generator Ability to integrate with cluster system for multi deposition technique capability. RGA Port Quartz Crystal Microbalance

Vendor Disclosure Statement Information and Instructions

Act 2001-955 requires the disclosure statement to be completed and filed with all proposals, bids, contracts, or grant proposals to the State of Alabama in excess of \$5,000. The disclosure statement is not required for contracts for gas, water, and electric services where no competition exists, or where rates are fixed by law or ordinance. In circumstances where a contract is awarded by competitive bid, the disclosure statement shall be required only from the person receiving the contract and shall be submitted within ten (10) days of the award.

A copy of the disclosure statement shall be filed with the awarding entity and the Department of Examiners of Public Accounts and if it pertains to a state contract, a copy shall be submitted to the Contract Review Permanent Legislative Oversight Committee. The address for the Department of Examiners of Public Accounts is as follows: 50 N. Ripley Street, Room 3201, Montgomery, Alabama 36130-2101. If the disclosure statement is filed with a contract, the awarding entity should include a copy with the contract when it is presented to the Contract Review Permanent Legislative Oversight Committee.

The State of Alabama shall not enter into any contract or appropriate any public funds with any person who refuses to provide information required by Act 2001-955.

Pursuant to Act 2001-955, any person who knowingly provides misleading or incorrect information on the disclosure statement shall be subject to a civil penalty of ten percent (10%) of the amount of the transaction, not to exceed \$10,000.00. Also, the contract or grant shall be voidable by the awarding entity.

Definitions as Provided in Act 2001-955

Family Member of a Public Employee - The spouse or a dependent of the public employee.

Family Member of a Public Official - The spouse, a dependent, an adult child and his or her spouse, a parent, a spouse's parents, a sibling and his or her spouse, of the public official.

Family Relationship - A person has a family relationship with a public official or public employee if the person is a family member of the public official or public employee.

Person - An individual, firm, partnership, association, joint venture, cooperative, or corporation, or any other group or combination acting in concert.

Public Official and Public Employee - These terms shall have the same meanings ascribed to them in Sections 36-25-1(23) and 36-25-1(24), Code of Alabama 1975, (see below) except for the purposes of the disclosure requirements of this act, the terms shall only include persons in a position to influence the awarding of a grant or contract who are affiliated with the awarding entity. Notwithstanding the foregoing, these terms shall also include the Governor, Lieutenant Governor, members of the cabinet of the Governor, and members of the Legislature.

Section 36-25-1(23), Code of Alabama 1975, defines a public employee as any person employed at the state, county or municipal level of government or their instrumentalities, including governmental corporations and authorities, but excluding employees of hospitals or other health care corporations including contract employees of those hospitals or other health care corporations, who is paid in whole or in part from state, county, or municipal funds. For purposes of this chapter, a public employee does not include a person employed on a part-time basis whose employment is limited to providing professional services other than lobbying, the compensation for which constitutes less than 50 percent of the part-time employee's income.

Section 36-25-1(24), Code of Alabama 1975, defines a public official as any person elected to public office, whether or not that person has taken office, by the vote of the people at state, county, or municipal level of government or their instrumentalities, including governmental corporations, and any person appointed to a position at the state, county, or municipal level of government or their instrumentalities, including governmental corporations. For purposes of this chapter, a public official includes the chairs and vice-chairs or the equivalent offices of each state political party as defined in Section 17-16-2, Code of Alabama 1975.

Instructions

Complete all lines as indicated. If an item does not apply, denote N/A (not applicable). If you cannot include required information in the space provided, attach additional sheets as necessary.

The form must be signed, dated, and notarized prior to submission.

Note: In order for an alternate bid to be considered, bidders must supply current catalogs or brochures, including pictorials and specifications.

Please indicate your company classification by circling the appropriate initial: Small Business (SB), a Small Disadvantaged Business (SD), a Black Small Disadvantaged Business (BD), a Woman-Owned Small Business (WB), a Woman-Owned Small Disadvantaged Business (WD), a Black Woman-Owned Small Disadvantaged Business (BW), a Large Business (LB), an Individual (IN), Educational (ED), Non-Profit (NP), a Labor Surplus Area Concern (LS), Disabled Veteran-Owned Small Business (DV), Veteran-Owned Small Business (VS), Historically Underutilized Business Zone (UZ), or a Governmental Agency (GV).

F.O.B. Point	TERMS Progress payments per KJLC Quotation SQ_130379NOT6	WARRANTY 18 month warranty as described in Kurt J. Lesker Company Standard Terms and Conditions of Sale
AAMU DESTINATION	YOUR REFERENCE NO.* SQ_130379NOT6	QUOTATION EFFECTIVE UNTIL 1/13/18
ESTIMATED DELIVERY 16-20 Weeks after KJLC acceptance of order and receipt of first payment.		

*Your company reference number, if applicable with this bid quotation.

Certification Pursuant To Act No. 2006-557

Alabama Law (Section 41-4-116, Code of Alabama 1975) provides that every bid submitted and contract executed shall contain a certification that the vendor, contractor, and all of its affiliates that make sales for delivery into Alabama or leases for use in Alabama are registered, collecting, and remitting Alabama state and local sales, use, and/or lease tax on all taxable sales and leases into Alabama. By submitting this bid, the bidder is hereby certifying that they are in full compliance with Act No. 2006-557, they are not barred from bidding or entering into a contract pursuant to 41-4-116, and acknowledges that the awarding authority may declare the contract void if the certification is false.

Kurt J. Lesker Company

412-387-9200

COMPANY NAME (TYPE OR PRINT)

TELEPHONE NUMBER

Sean E. Armstrong

412-384-2745

SIGNER'S NAME (TYPE OR PRINT)

FAX NUMBER

Sean E. Armstrong

12-8-17

SIGNATURE

DATE

Alabama Agricultural and Mechanical University prohibits the installation of asbestos on its campus. Suppliers and contractors will not supply any equipment, material, or supplies, which contain asbestos without prior written approval.

Failure to designate Bid Number and Opening Date on the outside of your sealed envelope containing your bid and more than one bid submitted in this envelope will result in a "No Bid" response in accordance with Alabama Competitive Bid Law 41-16-24 subpart b.

Alabama Agricultural and Mechanical University will not accept faxed bids.

Any product that fails to meet the specifications, performance requirements or compatibility requirements will be rejected and returned to the vendor at no cost to the University.

The University reserves the right to award this contract, in whole, in part, or to reject any and all quotations.

Alabama A & M University is an instrumentality of the State and is federal, state and local tax exempt.

SPECIAL NOTE:

Manufacturer's published product data must be included with your bid response for any alternate offerings. Any exception taken to any portion of this Request for Price Quotation must be stated on the bid response sheets or Alabama A&M University will assume compliance with all requirements as stated. The successful bidder will be responsible and accountable for providing those items as specified in its bid response.

2. List below the name(s) and address(es) of all family members of public officials/public employees with whom you, members of your immediate family, or any of your employees have a family relationship and who may directly personally benefit financially from the proposed transaction. Identify the public officials/public employees and State Department/Agency for which the public officials/public employees work. (Attach additional sheets if necessary.)

NAME OF FAMILY MEMBER	ADDRESS	NAME OF PUBLIC OFFICIAL/ PUBLIC EMPLOYEE	STATE DEPARTMENT/ AGENCY WHERE EMPLOYED

If you identified individuals in items one and/or two above, describe in detail below the direct financial benefit to be gained by the public officials, public employees, and/or their family members as the result of the contract, proposal, request for proposal, invitation to bid, or grant proposal. (Attach additional sheets if necessary.)

Describe in detail below any indirect financial benefits to be gained by any public official, public employee, and/or family members of the public official or public employee as the result of the contract, proposal, request for proposal, invitation to bid, or grant proposal. (Attach additional sheets if necessary.)

List below the name(s) and address(es) of all paid consultants and/or lobbyists utilized to obtain the contract, proposal, request for proposal, invitation to bid, or grant proposal:

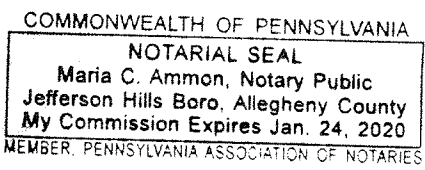
NAME OF PAID CONSULTANT/LOBBYIST	ADDRESS

By signing below, I certify under oath and penalty of perjury that all statements on or attached to this form are true and correct to the best of my knowledge. I further understand that a civil penalty of ten percent (10%) of the amount of the transaction, not to exceed \$10,000.00, is applied for knowingly providing incorrect or misleading information.

Sam S. Ant
12-8-17
 Signature Date

Maria C. Ammon
12-8-17
Jan 24, 2020
 Notary's Signature Date Date Notary Expires

Act 2001-955 requires the disclosure statement to be completed and filed with all proposals, bids, contracts, or grant proposals to the State of Alabama in excess of \$5,000.





State of Alabama Disclosure Statement

(Required by Act 2001-955)

ENTITY COMPLETING FORM

Kurt J. Lesker Company

ADDRESS

1925 Route 51

CITY, STATE, ZIP

Jefferson Hills, PA 15025

TELEPHONE NUMBER

(412)387-9200

STATE AGENCY/DEPARTMENT THAT WILL RECEIVE GOODS, SERVICES, OR IS RESPONSIBLE FOR GRANT AWARD

Alabama A&M University

ADDRESS

Department of Electrical Engineering and Computer Science

CITY, STATE, ZIP

Normal, AL 35762

TELEPHONE NUMBER

(256)372-5679

This form is provided with:

Contract

Proposal

Request for Proposal

Invitation to Bid

Grant Proposal

Have you or any of your partners, divisions, or any related business units previously performed work or provided goods to any State Agency/Department in the current or last fiscal year?

Yes

No

If yes, identify below the State Agency/Department that received the goods or services, the type(s) of goods or services previously provided, and the amount received for the provision of such goods or services.

STATE AGENCY/DEPARTMENT	TYPE OF GOODS/SERVICES	AMOUNT RECEIVED
-------------------------	------------------------	-----------------

See attachment A

Have you or any of your partners, divisions, or any related business units previously applied and received any grants from any State Agency/Department in the current or last fiscal year?

Yes

No

If yes, identify the State Agency/Department that awarded the grant, the date such grant was awarded, and the amount of the grant.

STATE AGENCY/DEPARTMENT	DATE GRANT AWARDED	AMOUNT OF GRANT
-------------------------	--------------------	-----------------

1. List below the name(s) and address(es) of all public officials/public employees with whom you, members of your immediate family, or any of your employees have a family relationship and who may directly personally benefit financially from the proposed transaction. Identify the State Department/Agency for which the public officials/public employees work. (Attach additional sheets if necessary.)

NAME OF PUBLIC OFFICIAL/EMPLOYEE	ADDRESS	STATE DEPARTMENT/AGENCY
----------------------------------	---------	-------------------------

OVER

Request for Taxpayer Identification Number and Certification

**Give Form to the
 requester. Do not
 send to the IRS.**

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
Kurt J. Lesker Co.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification; check only **one** of the following seven boxes:

Individual/sole proprietor or single-member LLC
 C Corporation
 S Corporation
 Partnership
 Trust/estate
 Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____
Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.
 Other (see instructions) ▶ _____

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
 Exempt payee code (if any) 5
 Exemption from FATCA reporting code (if any) _____
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)
1925 Route 51

6 City, state, and ZIP code
Jefferson Hills, PA 15025

7 List account number(s) here (optional)

Requester's name and address (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number									
or									
Employer identification number									
2	5	-	1	1	9	3	6	2	6

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here Signature of U.S. person ▶ *Shawn Horalyca* Date ▶ *10-19-15*

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
- Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Appendix A

ALD150LX System Performance Specifications

The System will comply with the Kurt J. Lesker Company (KJLC) standard ALD150LX System Performance Specifications (SPS) as follows. These will be the only specifications required to meet system compliance and acceptance.

Reference ALD150LX Offer for configurations and options selected and purchased. Some options may limit performance specifications and/or render certain specifications below inapplicable.

Vacuum Performance

Process Chamber (PC) Pumping (ref Note 1)									
1		Torr	1.0E-02	1.0E-06	5.0E-07	8.0E-08	5.0E-08	1.0E-08	5.0E-09
		mbar	1.3E-02	1.3E-06	6.7E-07	1.1E-07	6.7E-08	1.3E-08	6.7E-09
	42cfm Process Pump		●						
Load Lock (LL) Chamber Pumping (ref Note 1)									
2		Torr	1.0E-04	5.0E-05	1.0E-05	5.0E-06	1.0E-06	5.0E-07	1.0E-07
		mbar	1.3E-04	6.7E-05	1.3E-05	6.7E-06	1.3E-06	6.7E-07	1.3E-07
	210l/s Turbo pump							●	
Note 1	Base Pressure is defined as the lowest observed pressure achieved in a clean and dry (CDE) process chamber after a minimum of 12 hours of pumping. The base pressure value referenced is the minimum base pressure achieved. No detectable leaks >1x10 ⁻⁹ (Torr-liters/sec) using helium.								

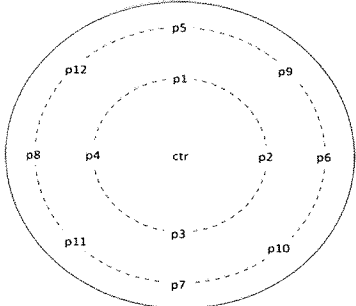
Thermal & Plasma Enhanced ALD Performance

1 Vapor Draw Delivery Sources (ref Notes 2 & 4)							
		Uniformity	≤±1%	≤±3%	≤±5%	≤±10%	≤±15%
	Al2O3 Process, 150mm Wafer		●				

2 Vapor Draw & Plasma Sources (ref Notes 3 & 4)							
		Uniformity	≤±1%	≤±3%	≤±5%	≤±10%	≤±15%
	Al2O3 Process, 150mm Wafer		●				

Note 2 Sources equipped with TMA and H2O precursors. Si wafers utilized for deposition. 300°C substrate temperature, film thickness ≥10nm. Cycle time ≤10s.

Note 3 Source equipped with TMA. Plasma source equipped with O2/Ar mass flow controller. Si wafers utilized for deposition. 300°C substrate temperature, film thickness ≥10nm. Cycle time ≤10s.

Note 4	<p>All Films are measured on a properly calibrated Ellipsometer or Reflectometer. (Note: the graph on the right may not be applicable) Uniformity based on +/-1 σ</p>	
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Heating Performance

1 Substrate Heating Uniformity (ref Note 4)							
		Uniformity	≤±2%	≤±2.5%	≤±3%	≤±5%	≤±10%
	150mm Substrate Heater				●		

Note 4 Temperature measurements utilize a Si wafer with integrated thermocouples. Substrate temperature to 400°C.

2 Heating Jacket Uniformity							
		Uniformity	≤±2%	≤±2.5%	≤±3%	≤±5%	≤±10%
	Delivery Lines, Chamber, Flow Through/ Vapor Draw					●	

Attachment A

State Agency / Department

Tuskegee University

University of Alabama @ Huntsville

University of Alabama @ Birmingham

University of South Alabama

University of Alabama

The University Of West Alabama

Alabama A&M University

Auburn University

Alabama Department of Forensic Sciences

University of North Alabama

Attachment 1

Special Terms and Conditions

December 4, 2017

Alabama A&M University (“Buyer”) and Kurt J. Lesker Company (“Supplier”) agree that Buyer’s General Conditions & Guidelines (“Buyer T&Cs”) shall apply to any order (“Order”) placed by Buyer to Supplier for the purchase of Supplier’s products and/or services (“Products”). Notwithstanding, the following special terms and conditions (“Special T&Cs”) shall also apply to any Order. In the event of a conflict between the Buyer T&Cs, the Order and its annexes, or a purchasing contract, if any, and these Special T&Cs, the Buyer and Supplier expressly agree that these Special T&Cs shall govern and take precedence.

As used herein, the term “Agreement” shall collectively mean the Buyer T&Cs, the Order and its annexes, any purchasing contract executed between Buyer and Supplier, and these Special T&Cs.

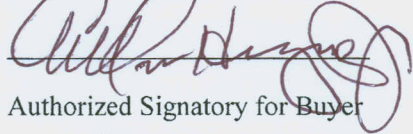
Buyer and Supplier agree as follows:

1. **Warranty:** Supplier warrants to Buyer that (a) the Products (other than software and services) are manufactured, fabricated and delivered to Buyer by Supplier free from defects in workmanship and materials, and conform to the written specifications issued by Supplier to Buyer for those Products; (b) Products consisting of software conform to the written specifications issued by Supplier to Buyer for that software; and (c) Products consisting of services conform to standards of practice generally accepted in the appropriate profession and/or industry for services of a similar nature. **THIS LIMITED EXPRESS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ALL OTHER WARRANTIES (EXPRESS, IMPLIED OR STATUTORY), INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY AND WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE DISCLAIMED.** This warranty (a) for Products, other than services, is in effect for 12 months after delivery and (b) for services is in effect for 12 months after performance. Buyer’s right to enforce this warranty is conditioned upon Buyer notifying Supplier of the defect or non-conformity on or before the 30th day after the end of the applicable 12 month period. Buyer’s remedy, and Supplier’s liability, for defect or non-conformity is limited to (a) Supplier’s repair or replacement of the defective or non-conforming Product (other than services), (b) Supplier’s re-performance of the defective or non-conforming Product consisting of services or (c) Supplier’s refund to Buyer of the amount paid by Buyer to Supplier for that Product. Supplier has the sole right to decide whether to repair, replace, re-perform or refund.
2. **Liability: SUPPLIER IS NOT LIABLE FOR ANY LOST PROFITS, SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES (OR OTHER DAMAGES OF THESE TYPES), WHETHER OR NOT ARISING OUT OF OR IN CONNECTION WITH THE AGREEMENT OR BREACH OF WARRANTY AND WHETHER OR NOT FORESEEABLE AT THE TIME OF ENTERING INTO THIS AGREEMENT. IN NO EVENT WILL SUPPLIER’S LIABILITY TO BUYER WITH RESPECT TO THE AGREEMENT, THE PRODUCTS AND/OR ANY BREACH EXCEED THE AGGREGATE AMOUNT OF MONEY PAID BY BUYER TO SUPPLIER UNDER THE AGREEMENT.**

3. **Intellectual Property:** Supplier grants to Buyer a limited, non-transferable license in the Supplier owned background intellectual property contained in the Products but only to the extent necessary to enable Buyer's use of the Products.
4. **Delivery Schedule:** Delivery dates are approximate but, in any case, such delivery dates assume timely receipt by Supplier from Buyer of all required or necessary payments and information. For purposes hereof, "timely receipt" in respect of payments shall mean within the timeframe described in the purchase order applicable to this Agreement and "timely receipt" of information shall mean within two (2) business days of a request for such information from Supplier to Buyer, or as may be otherwise agreed by Supplier and Buyer. Delivery may be delayed due to conditions beyond Supplier's control.

BUYER:

Alabama A&M University



Authorized Signatory for Buyer

Name: Andrew Thornton TR

Title: PRESIDENT

Date: 1-9-18

SUPPLIER:

Kurt J. Lesker Company

Sean E Armstrong

Authorized Signatory for Supplier

Name: ~~Sean E Armstrong~~

Sean E Armstrong

Title: Technical Sales Manager

Date: 12-8-17



1925 Route 51, Jefferson Hills, PA 15025 USA

www.lesker.com; sales@lesker.com

SALES: (800) 245-1656

Fax: (412) 384-2745

OFFER

Atomic Layer Deposition System: ALD-150LX

COMPANY	Alabama A&M University	REFERENCE #	SQ_130379 NOT6
CONTACT	Zhigang Xiao		
PHONE	256 468 4770	DATE	12-Dec-2017
EMAIL	zhigang.xiao@aamu.edu		

The ALD-150LX is a single wafer ALD system with automated control and configured for use with up to 150mm substrates. Smaller substrates can be accommodated by using appropriate adapters/carriers. Key features of this high performance tool include remote plasma capability, standard analytical ports for in-situ real-time analysis, as well as the ability to integrate the ALD tool into a multi-tool configuration (i.e., a cluster tool). The system incorporates a vertical, perpendicular flow process utilizing an inactive gas barrier (or curtain gas) to encapsulate and focus precursors onto the substrate surface thereby minimizing unwanted side-wall reactions. Benefits include shorter cycle times and efficient reactant utilization.

A large variety of options are available with this tool. They are itemized separately in the proposal below. Please note that depending on the specific system configuration, some options may not be compatible with one another. The system is delivered to the customer fully assembled and performance tested.

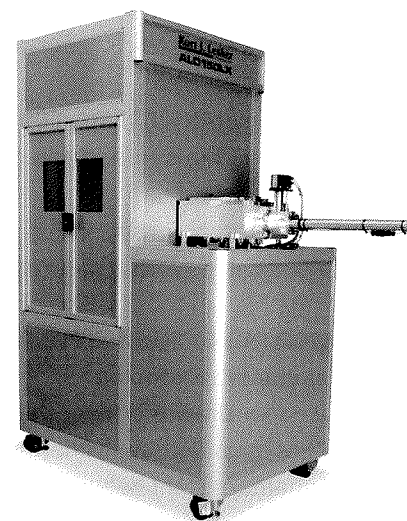


Photo is for reference only, actual system may vary based on options chosen.

BASE SYSTEM DESCRIPTION

PROCESS CHAMBER

- **Patented Precursor Focusing Technology™ (PFT™)**
- **5 Independent precursor lines- 4 independently temperature controlled vapor inputs and 1 plasma with reactant manifold.**
- Heated stainless-steel, perpendicular flow reactor chamber for efficient vapor & gas delivery
- Front-side wafer loading port
- Top mounted vapor delivery system
- Standard ports for in-situ analysis (e.g., spectroscopic ellipsometry)
- Stainless-steel substrate heater stage with embedded heater element capable of operation to 500°C (approximately 400°C substrate temperature) with all electrical components isolated from vacuum.
- Temperature uniformity across 150mm Si substrate < (+/-) 3%
- Pin-lift mechanism effects substrate transfer
- Chamber heating to 150°C prevents unwanted film deposition on chamber walls

VACUUM PUMPING

- Chemical resistant, O2 compatible (Fomblinized) 42 cfm rotary vane pump for reactant chamber
- Typical process pressure around 1 Torr
- Pressure measurement is accomplished with a single, heated (150°C) Baratron® capacitance manometer (10 Torr full-scale)

ENCLOSED SYSTEM FRAMEWORK

- Enclosed framework with exhaust flanges
- Removable panels

WATER DISTRIBUTION MANIFOLD

- Manual shut off valves
- Interlocked flow switches included for critical components
- 3/8" NPT connections (inlet and outlet)

POWER DISTRIBUTION

- Single service drop (208 VAC, 60Hz, three phase, 5-wire, 60 Amps based on configuration)
- Component wiring is routed to a centralized power distribution panel for each primary module
- EMO protection
- Appropriate safety interlocks

NOTE: A dedicated earth ground is required

PRECURSOR INLET - SOURCE POSITION 1

- Single Vapor Draw Module
- Heated Vapor Draw precursor delivery module (for liquid or solids) including:
- Carrier gas mass flow controller (MFC), high-speed ALD valve, and shut off valve
- Independent reactant delivery line can be heated to 200°C
- Input is introduced to chamber through a top mounted dispersion plate for uniform distribution

NOTE: Reactant ampoules and ampoule heaters are not included. Ampoule heater controls included.

PRECURSOR INLET - SOURCE POSITION 2

- Single Vapor Draw Module
- Heated Vapor Draw precursor delivery module (for liquid or solids) including:
- Carrier gas mass flow controller (MFC), high-speed ALD valve, and shut off valve
- Independent reactant delivery line can be heated to 200°C
- Input is introduced to chamber through a top mounted dispersion plate for uniform distribution

NOTE: Reactant ampoules and ampoule heaters are not included. Ampoule heater controls included.

KJLC eKLipse ADVANCED CONTROL PACKAGE

- User Interface via .NET application run on Windows 10 PC platform
- Standalone Real Time Controller (RTC) executes equipment automation
- RTC provides uninterrupted operation, independent of the Windows Computer and User Interface status
- All In One (AIO) PC, full HD touch-screen monitor, keyboard with touch pad
- PC provides supervisory interface to RTC, facilitates monitoring and manual actuation of vacuum, transfer, maintenance, and deposition process components
- UI Navigation and Title Panel: Visual display and control of system status messages, user login/logout, operation mode, and system abort
- Vacuum Screen: Visual display of valve position, pump status and vacuum status
- Deposition Screen: Source & reactant MFC's, ALD valve status
- Gas Screen: Mass flow controller modes, gas valve status, pressure measurement and control display
- Process Screen: Cycle count & duration, reactant sequencing, Real Time control over Dose & Purge Times
- Transfer (if equipped): Motor, pin lift, & isolation valve status/control
- Motion Screen: Display/input of speed and velocity profiles as well as PID control parameters
- Heating Screen: Substrate heating; chamber temperature, foreline & heated gas/vapor delivery line parameters
- KJLC eKLipse software code is internally and externally audited to ensure quality and reliability
- Provides for fully customizable recipe control and process automation
- Graphical Recipe Builder generates a recipe via mouse or touchscreen selectable user interface components
- Recipe Database Screen provides selection & editing of standard recipes, with copy functionality for modification of existing & saving of new recipes
- Programming/control via a keyboard/touch pad or pop-up window on touch screen
- Four standard user security levels with user access assignable to controls via user security level
- Ability to export/import recipes from and any KJLC tool running eKLipse Computer control
- Provides full user log with .csv file export functionality (for spreadsheet import)
- Provides access to KJLC and user created recipes

DOCUMENTATION

- Customer drawing package (including general assembly, vacuum schematic, water flow schematic, and electrical schematics)
- Operation and component manuals provided in English

WARRANTY AND LIABILITY

- 12-month standard warranty as described in Kurt J. Lesker Company Standard Terms and Conditions of Sale
- KJLC is not liable for any indirect or consequential damages; KJLC liability shall in no event exceed the amount paid by customer to KJLC for the products described in this document

FACTORY TESTING AND COMPLIANCE

- The system is factory tested to comply with the ALD-150LX System Performance Specifications (SPS) per attached Appendix A.
- These will be the only Specifications required to meet system compliance and acceptance
- The customer will be supplied with applicable testing documentation
- No process guarantees of any kind are offered or implied with the system
- The system is manufactured in accordance to CE standards and can be CE marked for an additional cost

SYSTEM SET UP

- Customer is responsible for uncrating, placement and connection of the system at the customer’s facility
- Customer is responsible to provide and connect all required utilities including but not limited to compressed air, water, process/vent gas, electric, and dedicated earth ground. Detailed specifications will be provided prior to system shipment
- Customer must verify that all utility connections have been made and are in service before the start-up visit is scheduled. At least two weeks’ notice is required when scheduling system start-up
- The start-up and training visit must occur within 3 months after system shipment. For visits that are delayed beyond this period by the customer, labor and travel costs will be charged at the rates in effect at the time of the visit and may affect warranty of the system

Base System Price \$177,550

SYSTEM OPTIONS AND UPGRADES:

NOTE: If an option is selected, the system price will reflect the selection. Options not selected will not be included in the system.

PUMPING OPTIONS

CP1	1	Oil filtration unit	\$3,500	\$3,500
		<ul style="list-style-type: none"> • Three (3) parallel filtration elements • 1.9L/m flow rate • Pressure gauge 		
		NOTE: Only applicable to system configured with wet pumping		

LIQUID / SOLID DELIVERY INPUTS

POSITION 1 VAPOR DRAW HEATING:

P1H	1	VAPOR DRAW AMPOULE HEATER JACKET	\$1,750	\$1,750
		<ul style="list-style-type: none"> • Enables stable precursor/ampoule temperature • Sized for standard 50ml precursor cylinders • Heating capability to 150°C 		

		POSITION 2 VAPOR DRAW HEATING:		
P2H	1	VAPOR DRAW AMPOULE HEATER JACKET	\$1,750	\$1,750
		<ul style="list-style-type: none"> • Enables stable precursor/ampoule temperature • Sized for standard 50ml precursor cylinders • Heating capability to 150°C 		
		PRECURSOR INLET - SOURCE POSITION 3:		
		NOTE: Position 3 may be populated with P3S, P3M, or P3L options listed below.		
P3M	1	MULTI SOURCE VAPOR DRAW MANIFOLD	\$13,600	\$13,600
		<ul style="list-style-type: none"> • Multi-precursor liquid/solid reactant input manifold • Allows attachment of up to five (5) Precursor Input Modules • Aluminum thermal mass shell with integrated heater jacket • One (1) carrier gas input ALD valve • One (1) carrier gas MFC with iso valve 		
P3MM	2	MULTI SOURCE VAPOR DRAW MANIFOLD PRECURSOR MODULE FOR P3M OPTION ABOVE	\$3,800	\$7,600
		<ul style="list-style-type: none"> • One (1) additional ALD valve for ampoule attachment • Full integration to Multi Source Vapor Draw Manifold <p>NOTE: Maximum of five (5) precursor modules can be attached to manifold</p>		
		PRECURSOR INLET - SOURCE POSITION 4:		
		NOTE: Position 4 may be populated with P4S, P4M, or P4L options listed below.		
P4L	1	FLOW THROUGH OVEN MODULE	\$16,400	\$16,400
		<ul style="list-style-type: none"> • Heated Flow Through bubbler type precursor delivery module (for liquids or solids) including: <ul style="list-style-type: none"> • Aluminum thermal mass oven with integrated heater & jacket • Three (3) ALD valves • One (1) shut-off valve • One (1) carrier gas MFC • Heated delivery lines to 200°C <p>NOTE: The Flow Through oven module may be used for multiple precursor ampoules. It may be populated with either one (1) flow-through cylinder or up to two (2) Vapor Draw ampoules</p>		

GAS PHASE REACTANT DELIVERY

GR1	1	Pulsed Gas Reactant Input <ul style="list-style-type: none"> • 1000cc reactant cylinder • One (1) ALD valve • One (1) capacitance manometer • Two (2) metering valves • Three (3) diaphragm valves (2 pneumatic & 1 manual) • Full integration to base precursor delivery module NOTE 1 : Gaseous inputs are provided with the Plasma Option for the 150LX system. PGI is recommended for all gaseous inputs if plasma source is not chosen. NOTE 2: PGI is also recommended for gaseous inputs where continuous flow is not desired (NH3, H2S, etc.)	\$5,775	\$5,775
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REMOTE PLASMA SOURCE

RP2	1	Remote Plasma Source with 1kW RF power supply <ul style="list-style-type: none"> • Top mounted 13.56 MHz inductively coupled remote plasma source • Cylindrical quartz plasma tube • Helical inductive coil geometry • 1kW RF power supply • Auto-matching network • Includes reactant gas input for plasma gas delivery • Gas Compatibility PLC to prevent unwanted mixing of gases on system • Reactant bypass network • Pump/Purge each reactant line through Load Lock • All manual isolation valves are LOTO compatible 	\$78,900	\$78,900
RP3	2	Additional reactant gas MFCs <ul style="list-style-type: none"> • Each additional MFC includes a positive shut-off valve • Maximum of four additional MFCs for a total of five reactant gas MFCs • Ability to purge each MFC with an inert gas. • Upstream and down stream MFC Isolation valves with positive feedback that are tied back to Gas Compatibility PLC 	\$4,750	\$9,500

RGA PACKAGE

RG1	1	RGA Package <ul style="list-style-type: none"> • 300 AMU integrated to Load Lock for vacuum diagnostics 	\$15,000	\$15,000
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IN-SITU ELLIPSOMETER

IE2	1	FS-1 Multi-Wavelength Ellipsometer System <ul style="list-style-type: none"> • 4-Wavelength LED Light Source Unit • 465, 525, 580, and 635 nm Wavelengths • High Reliability Ellipsometric Detector Unit – No Moving Parts • Compact Light Source & Detector Designed for In-Situ Integration • In-Situ Mounting Adapters Included • Ex-Situ Frame With Manual Height Adjustment Included • Reference Sample Included 	\$28,900	\$28,900
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LOAD LOCK

LL1	1	LOAD LOCK <ul style="list-style-type: none"> • Load lock connects directly to deposition chamber via a slit valve. Substrates are transferred to the load lock from ALD chamber using a linear rack and pinion transfer mechanism which is mounted directly to the load lock. The load lock is turbo pumped and has a base pressure capability of 5×10^{-7} Torr (clean and dry). Substrates are manually loaded into the load lock and transferred to either ALD chamber or adjoining process chambers • Aluminum construction with hinged top loading door (with viewport) • Direct interface to ALD (and adjoining process chamber if applicable – blanked off if not used) • High vacuum slit valve between ALD chamber • Dedicated 210 l/s turbo pump, isolation gate valve with appropriate dry roughing pump (vacuum level 5×10^{-7} Torr or better – clean and dry) • Load Lock Purge Valve and Capacitance Manometer provided • Wide range pressure gauging • A pin-lift mechanism effects substrate transfer • Motor assisted, operator supervised and controlled substrate transfer using a linear rack and pinion transfer probe mounted directly to the load lock • Ultra High Purity transfer enabled 	\$38,400	\$38,400
LL3	1	150mm TO 100mm WAFER ADAPTOR <ul style="list-style-type: none"> • <100mm coupon can be clipped • Clips and hardware supplied 	\$0	INCLUDED IN BASE

WARRANTY

PC1	1	Extended Warranty <ul style="list-style-type: none"> • Additional 6 months (total of 18 months) • Detailed description in Kurt J. Lesker Company Standard Terms and Conditions of Sale 	\$0	INCLUDED IN BASE
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TOTAL SYSTEM PRICE / TERMS AND CONDITIONS:

Total system price with options as selected (FOB Destination, Prepaid & Add):	\$398,625
Preferred Customer Discount	-\$25,000
Crate Fee:	\$1,860
ESTIMATED Freight Charges to Alabama	\$1,400
Estimated Total:	\$376,885

SHIPMENT: 16-20 weeks after KJLC acceptance of order and receipt of first progress payment. Please note that shipment date is subject to review at time of order. Customer is responsible for all freight, crating and handling charges.

TERMS:

Please note that Kurt J. Lesker Company ("KJLC") is submitting this quote in response to Alabama A&M University's ("University") Atomic Layer Deposition System for Electrical Engineering and Computer Science Department Invitation to Bid- 2K18-05B ("ITB") on the express condition that KJLC and the University sign the attached Special Terms and Conditions ("Special T&Cs"), dated December 4th, 2017. For the avoidance of doubt, this quote, including the price, is based upon the University's agreement to the Special T&Cs. The University's own terms and conditions and these Special T&Cs will form the basis of the contract under which any work will be performed by KJLC should it be the successful bidder. In the event of any conflict between the University's own terms and conditions and these Special T&Cs, the parties agree that the Special T&Cs shall govern and take precedence.

PAYMENT: KJLC Standard Progress Payments will apply:

- 30% Net 30 days with order acceptance
- 60% Net 30 days upon shipment
- 10% Net 45 days after shipment (or, when applicable, Net 30 days after KJLC startup and training). If shipment is delayed for more than 30 days at the request of the customer or installation at the customer premises is delayed by more than 30 days: (a) half of this progress payment will become due immediately, (b) equipment warranty will begin immediately, and (c) storage fees may apply. KJLC will issue a written notice.

NOTE: All prices are in US Dollars
 No duty or taxes are included
 Prices valid for 30 days