

**Pittsburg State University
Request for Quotation**

RFQ Number	001556
Date Issued	February 10, 2021
Closing Date	February 19, 2021; 2:00pm local time
Procurement Officer	Brad Stefanoni; 620.235.4169; bstefanoni@pittstate.edu
Item	Universal Testing Machine
Agency & Location	Pittsburg State University (PSU) in Pittsburg Kansas
Scope	Pittsburg State University is seeking quotations for one (1) universal testing machine.
Bid Submittal	Submit bid by e-mail to bstefanoni@pittstate.edu

1. When communicating, always refer to the Quotation number above.
2. In order to receive consideration for award, one copy of this “Request for Quotation,” a properly completed and signed, must be returned to Pittsburg State University no later than the specified closing time. The University is not responsible for late bids.
3. All prices, terms, and conditions must be shown. Additions or conditions not shown on this bid will not be allowed.
4. Prompt payment discounts will not be considered in determining the low bid.
5. Prices quoted shall be less Federal Excise and State Sales taxes.
6. The PSU Director of Purchasing reserves the right to accept or reject any part of this quotation.
7. Bid results will not be given to individuals over the phone. Written bid results may be obtained by written request from the procurement officer.
8. Contractual Provisions Attachment DA-146a applies to all bids.
9. It is hereby agreed that the bidder will, if required by law, comply with the Kansas Act Against Discrimination, K.S.A. 44-1030 et. Seq.
10. PSU reserves the right to award in the best interest of the university.

Vendor Name	
--------------------	--

Pittsburg State University is seeking quotations for one (1) universal testing machine per the following specifications. This universal testing machine will be used in our Plastics Testing Laboratory, which is located in the Kansas Technology Center of Pittsburg State University. As this machine will be testing a wide range of plastic and composite materials, certain specifications must be considered.

I. GENERAL

The testing instrument shall consist of a table-top 30 kN (3,000 kgf, 6,750 lbf) capacity load frame, a load weighing system, software for machine control and data acquisition. All of these components must be fully integrated and supported by the vendor.

II. MATERIAL TESTING SYSTEM SPECIFICATIONS

This unit shall integrate the following major sub-systems into a complete operating system. The major sub-systems and their specifications are:

A. LOAD FRAME

1. The load frame should be a dual column loading frame that includes a digital closed loop command and feedback motion control system with a high-performance AC servo motor.
2. The moving crosshead will be driven by precision screws each with a preloaded nut providing zero backlash during reverse stress loading. Systems without ball screws or preload nuts that are not preloaded are not acceptable.
3. For lateral stiffness and robustness purposes, in addition to the ball screws described above, the load frame should include at least two smooth ground guidance rods that the moving crosshead also rides on.
4. The moving crosshead must be a solid single machined piece that encloses the ball screws and guidance rods for maximum overall stiffness
5. The ball screws shall be fully enclosed to eliminate pinch points and protect the precision surfaces from damage from grips and contamination.
6. The load frame shall include a bright red ISO approved emergency stop switch.
7. The vertical distance between the load frame table and crosshead shall be a maximum distance of 1607 mm (63.3 in).and for load cells, grips and fixtures.
8. The maximum load capacity shall be 30 kN (3,000 kgf, 6,750 lbf).
9. The speed range should 0.05 to 508 mm/min (0.002 in/min to 20 in/min).
10. The maximum crosshead return speed is 610 mm/min (24 in/min) for rapid testing turn-around.
11. The steady state speed accuracy shall be within +/-0.2%, of set speed measured over full speed range.
12. The frame shall have variable speed jog with software-defined speed. When jog is initiated, the crosshead shall gradually accelerate to reach a maximum jog speed of 610 mm/min (24 in/min).
13. The frame column shall be powder coated to resist dents and scratches for protection.
14. The frame column shall have t-slots to allow easy attachment and movement of accessories without need to drill or use fasteners.

15. The frame column shall have a fixed measurement tape rule for easy spotting and setting of the moving crosshead and test load strings.
16. The load frame will have two secondary position limits using a micro-switch to prevent crosshead run-away as a system fail-safe. The user settable limits must be attached to a solid metal rod for durability and stiffness.
17. For safety purposes, the frame shall incorporate an auto-frame standby mode that automatically stops the frame when the transducer, interface, or computer is disconnected or shutdown.
18. The system shall have an operator panel with buttons to start and stop tests, return crosshead to the origin, and jog the crosshead. The operator panel shall contain four colored status LEDs to indicate the status of the system: disabled (white), setup (blue), caution (yellow), and testing (red).
19. The machine's movement is restricted to prevent unintended motion of the crosshead with an Operator Protect function - a two-button press sequence to move between testing modes.
20. The system shall have an Operator Protection mechanism that allows limiting crosshead jog speed and reduce grip closing pressure while setting up a test.
21. The system shall include a "PIP" input jack to allow use of an external pipping device to manual mark points of interest during data acquisition
22. The system shall have a 25 pin connection for an auxiliary encoder.
23. The system shall have active LED indicators for the user to quickly determine system status. Users are provided clear communication on when it is safe to enter, and when to stay clear of test space. The LEDs on the Operator Panel shall match the software's border to indicate that status of the system at all times.
24. The system shall have exhaust vents with filter to help minimize particle ingress and regulate the frame internal operating temperature.
25. The system shall include four shock absorbing feet on each corner of the frame that can be (height) adjusted for leveling the test frame. The feet must be designed for absorbing shocks to minimize vibrations to the test frame and transducers.
26. The system shall include a Collision Mitigation function to reduce damage to equipment and delicate specimens by stopping the crosshead if force is detected upon return or during a jog. The crosshead will also automatically reverse marginally to prevent damage and allow safe removal of any contacted object.
27. The system shall allow continuous operation for up to ten days (14400 hours).

B. LOAD WEIGHING SYSTEM, TRANSDUCERS, & ELECTRONICS

1. The load weighing system accuracy shall be within +/-0.5% of reading down to 1/200th and within +/-1% of reading down to 1/500th of the load cell capacity respectively.
2. Any load cell provided shall have over range protection that will stop the frame automatically.
3. Any changing of transducers on the test system must be Plug in, Calibrate, and Run - including changing load cells.
4. Transducers, including Load Cells and Extensometers must be single piece assemblies to avoid mismatch of parts.

5. Load cells must be complete assemblies with a rigid clevis connection for easy and quick attachment to fixtures.
6. The system shall be equipped with Collision Mitigation which monitors the load readings during jog and return and will stop the crosshead if unexpected load is observed. The crosshead will also automatically reverse marginally to prevent damage and allow safe removal of any contacted object.
7. The data acquisition (DA) electronics shall be designed to be located in the test frame close to the load cell and properly shielded from the known electronic noise generated in the test frame.
8. The transducers will be automatically identified by the electronics and software with automatic calibration. This eliminates the need for any calibration curves storage or correction.

C. PNEUMATIC AIR CONTROL KIT

1. The system shall have a pneumatic air control kit integrated into the base of the frame with a push-fit connection for the inlet, accepting up to 120 psi (8.3 bar).
2. The air kit shall provide connections for two pneumatic grips via push-fit connections.
3. The air kit shall be activated with a dual-pedal footswitch. The right pedal shall close one grip upon the first press and the second grip when pressed again. The left pedal shall open both grips simultaneously.
4. The air control kit shall include a dual-stage pressure manifold which initially closes the grips at a lower administrator defined pressure in the testing software.
5. Upon starting the test, the air control kit shall move to a higher, method-defined pressure.

D. TEST FRAME CONTROL

- a) The control software will have a graphical user interface meeting all Microsoft Windows standards.
- b) The software must have multi levels of user access based on his or her login name and password, including support for Windows Active Directory.
- c) The testing software must be able to perform tensile, compression, flexural, peel, tear, friction, and cyclic testing with an appropriate calculation list for each type of test.
- d) Digital displays on the computer monitor should show live load and displacement values. Units that can be selected to be Metric, S.I., U.S. customary.
- e) The system shall include a context sensitive help and reference system with hot links.

D. DATA ACQUISITION

- a) The system electronics shall have an internal sampling rate of 40 kHz.
- b) The control software shall be capable of acquiring data at 1000 Hz across load, displacement, and up to two optional strain channels. Data rates should not be affected by the number of strain channels collected. Maximum data rates shall be maintained throughout any test duration period without a time limit.
- c) The system shall have an auxiliary digital encoder channel for connecting optional digital devices.

E. SERVICE & INSTALLATION

1. Factory trained service engineers must be available for additional training or warranty service.

2. The supplier shall install the system, verify load to ASTM specifications, and provide basic on-site training.

3. The system shall include a full illustrated operator's manual.

F. FIXTURES AND ACCESSORIES

The following accessories should be included in the quote:

1. Biaxial Extensometer to measure Strain (2 inch gauge length)
2. Pneumatic Grips for Tensile Testing
3. Standard Grips for Tensile Testing
4. Fixtures for Compression Testing
5. Fixture for 3 Point Beam Analysis

For technical questions please contact **Greg Murray** at **620.235.4384** or gmurray@pittstate.edu.

PSU reserves the right to award in the best interest of the university.

General Provisions/Signature

Tax Clearance Certification: Bid submittals of \$25,000 or more shall include a copy of a Tax Clearance Certification. Tax Clearances may be obtained from the Kansas Dept. of Revenue (KDOR):

<http://www.ksrevenue.org/taxclearance.html>

W9 Form: Vendors who are new to PSU should submit a copy of their W9 with bid response. The form can be downloaded at www.irs.gov/pub/irs-pdf/fw9.pdf

DA-146a Contractual Provisions: The bidder agrees to accept the provisions of form DA-146a, Contractual Provisions Attachment which is incorporated into all contracts with the State <http://www.da.ks.gov/purch/DA-146a.pdf>

NEW MATERIALS, SUPPLIES, OR EQUIPMENT: Unless otherwise specified, all materials, supplies or equipment offered by a vendor shall be new, and unused in any regard. All materials, supplies and equipment shall be first class in all respects. Seconds or flawed items will not be acceptable. All materials, supplies or equipment shall be suitable for their intended purpose and, unless otherwise specified, fully assembled and ready for use on delivery.

COMPARABLE PRODUCTS: Bids on comparable products are invited. Indicate appropriate items, brands, model numbers, and specifications. Minor deviations in size and operational characteristics from those set forth in the specification will be considered when such deviations do not alter nor deter Pittsburg State University from accomplishing its intended usage or function. **Each bidder must clearly indicate in writing where (if any) their product characteristics deviate from these specifications and explain how their product accomplishes the desired function even though product characteristics may be different.**

ACCEPTANCE OR REJECTION: PSU reserves the right to accept or reject any or all bids or part of a bid; to waive any informalities or technicalities; clarify any ambiguities in bids; and unless otherwise specified, to accept any item in the bid.

PAYMENT: Payment will be made upon receipt of shipment by PSU.

FREIGHT COST INFORMATION: FOB Destination, Freight Prepaid, and Allowed.

The undersigned certifies that he does not have any substantial conflict of interest sufficient to influence the bidding process on this bid. A conflict of substantial interest is one which a reasonable person would think would compromise the open competitive bid process.

- Legal Name of Person, Firm or Corporation:
- Payment Terms:
- Telephone Number:
- E-mail Address:
- **Signature:** _____
- **Date:** _____

CONTRACTUAL PROVISIONS ATTACHMENT

Important: This form contains mandatory contract provisions and must be attached to or incorporated in all copies of any contractual agreement. If it is attached to the vendor/contractor's standard contract form, then that form must be altered to contain the following provision:

The Provisions found in Contractual Provisions Attachment (Form DA-146a, Rev. 07-19), which is attached hereto, are hereby incorporated in this contract and made a part thereof.

The parties agree that the following provisions are hereby incorporated into the contract to which it is attached and made a part thereof, said contract being the _____ day of _____, 20____.

1. **Terms Herein Controlling Provisions:** It is expressly agreed that the terms of each and every provision in this attachment shall prevail and control over the terms of any other conflicting provision in any other document relating to and a part of the contract in which this attachment is incorporated. Any terms that conflict or could be interpreted to conflict with this attachment are nullified.
2. **Kansas Law and Venue:** This contract shall be subject to, governed by, and construed according to the laws of the State of Kansas, and jurisdiction and venue of any suit in connection with this contract shall reside only in courts located in the State of Kansas.
3. **Termination Due To Lack Of Funding Appropriation:** If, in the judgment of the Director of Accounts and Reports, Department of Administration, sufficient funds are not appropriated to continue the function performed in this agreement and for the payment of the charges hereunder, State may terminate this agreement at the end of its current fiscal year. State agrees to give written notice of termination to contractor at least thirty (30) days prior to the end of its current fiscal year and shall give such notice for a greater period prior to the end of such fiscal year as may be provided in this contract, except that such notice shall not be required prior to ninety (90) days before the end of such fiscal year. Contractor shall have the right, at the end of such fiscal year, to take possession of any equipment provided State under the contract. State will pay to the contractor all regular contractual payments incurred through the end of such fiscal year, plus contractual charges incidental to the return of any such equipment. Upon termination of the agreement by State, title to any such equipment shall revert to contractor at the end of the State's current fiscal year. The termination of the contract pursuant to this paragraph shall not cause any penalty to be charged to the agency or the contractor.
4. **Disclaimer Of Liability:** No provision of this contract will be given effect that attempts to require the State of Kansas or its agencies to defend, hold harmless, or indemnify any contractor or third party for any acts or omissions. The liability of the State of Kansas is defined under the Kansas Tort Claims Act (K.S.A. 75-6101, *et seq.*).
5. **Anti-Discrimination Clause:** The contractor agrees: (a) to comply with the Kansas Act Against Discrimination (K.S.A. 44-1001, *et seq.*) and the Kansas Age Discrimination in Employment Act (K.S.A. 44-1111, *et seq.*) and the applicable provisions of the Americans With Disabilities Act (42 U.S.C. 12101, *et seq.*) (ADA), and Kansas Executive Order No. 19-02, and to not discriminate against any person because of race, color, gender, sexual orientation, gender identity or expression, religion, national origin, ancestry, age, military or veteran status, disability status, marital or family status, genetic information, or political affiliation that is unrelated to the person's ability to reasonably perform the duties of a particular job or position; (b) to include in all solicitations or advertisements for employees, the phrase "equal opportunity employer"; (c) to

comply with the reporting requirements set out at K.S.A. 44-1031 and K.S.A. 44-1116; (d) to include those provisions in every subcontract or purchase order so that they are binding upon such subcontractor or vendor; (e) that a failure to comply with the reporting requirements of (c) above or if the contractor is found guilty of any violation of such acts by the Kansas Human Rights Commission, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration; (f) Contractor agrees to comply with all applicable state and federal anti-discrimination laws and regulations; (g) Contractor agrees all hiring must be on the basis of individual merit and qualifications, and discrimination or harassment of persons for the reasons stated above is prohibited; and (h) if it is determined that the contractor has violated the provisions of any portion of this paragraph, such violation shall constitute a breach of contract and the contract may be canceled, terminated, or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration.

6. **Acceptance of Contract:** This contract shall not be considered accepted, approved or otherwise effective until the statutorily required approvals and certifications have been given.
7. **Arbitration, Damages, Warranties:** Notwithstanding any language to the contrary, no interpretation of this contract shall find that the State or its agencies have agreed to binding arbitration, or the payment of damages or penalties. Further, the State of Kansas and its agencies do not agree to pay attorney fees, costs, or late payment charges beyond those available under the Kansas Prompt Payment Act (K.S.A. 75-6403), and no provision will be given effect that attempts to exclude, modify, disclaim or otherwise attempt to limit any damages available to the State of Kansas or its agencies at law, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.
8. **Representative's Authority to Contract:** By signing this contract, the representative of the contractor thereby represents that such person is duly authorized by the contractor to execute this contract on behalf of the contractor and that the contractor agrees to be bound by the provisions thereof.
9. **Responsibility for Taxes:** The State of Kansas and its agencies shall not be responsible for, nor indemnify a contractor for, any federal, state or local taxes which may be imposed or levied upon the subject matter of this contract.
10. **Insurance:** The State of Kansas and its agencies shall not be required to purchase any insurance against loss or damage to property or any other subject matter relating to this contract, nor shall this contract require them to establish a "self-insurance" fund to protect against any such loss or damage. Subject to the provisions of the Kansas Tort Claims Act (K.S.A. 75-6101, *et seq.*), the contractor shall bear the risk of any loss or damage to any property in which the contractor holds title.
11. **Information:** No provision of this contract shall be construed as limiting the Legislative Division of Post Audit from having access to information pursuant to K.S.A. 46-1101, *et seq.*
12. **The Eleventh Amendment:** "The Eleventh Amendment is an inherent and incumbent protection with the State of Kansas and need not be reserved, but prudence requires the State to reiterate that nothing related to this contract shall be deemed a waiver of the Eleventh Amendment."
13. **Campaign Contributions / Lobbying:** Funds provided through a grant award or contract shall not be given or received in exchange for the making of a campaign contribution. No part of the funds provided through this contract shall be used to influence or attempt to influence an officer or employee of any State of Kansas agency or a member of the Legislature regarding any pending legislation or the awarding, extension, continuation, renewal, amendment or modification of any government contract, grant, loan, or cooperative agreement.