

Mississippi State University
Notice of Proposed Sole Source Purchase

267-045

Mississippi State University anticipates purchasing the item(s) listed below as a sole source purchase. Anyone objecting to this purchase shall follow the procedures outlined below.

1. Commodity or commodities to be purchased (make, model, description):

Make: UltraFlex Power Technologies

Model: UltraMelt TF-40

Description:

The UltraMelt TF-40 is a tilting induction melting furnace engineered to melt large volumes of metals at high efficiency (e.g., approximately 40 lbs. of aluminum in 15 minutes). The system features a handheld controller that enables precise, automated, and safe pouring of molten metal into molds. Utilizing advanced induction circuitry, the TF-40 maximizes melting throughput while minimizing energy consumption.

Make: Haskris

Model: WC-HO-46

Description:

The Haskris Chilled Cooling System features an air-cooled, closed-refrigeration circuit optimized for water or water/glycol operations. This system is specifically engineered and configured to support the thermal management requirements of a dual UltraMelt TF-40 furnace configuration operating at a 100% duty cycle.

Make: UltraFlex Power Technologies

Model: 2DET-016-000-TL

Description:

The spare graphite crucibles are explicitly manufactured to match the dimensions and capacity constraints of the UltraMelt TF-40. These crucibles have a holding capacity of 13.2 lbs. for aluminum and 40 lbs. for brass. Sourcing these parts from the original manufacturer supports the convenient replacement of worn components as they degrade over time.

2. Explanation of the need to be fulfilled by this item(s), how is it unique from all other options, and why it is the only one that can meet the specific needs of the department:

The proposed induction melting system will support instructional, research, and workforce development activities as part of Mississippi State University's upcoming Metallurgical Engineering Trade Apprenticeships and Learning (METAL) program. The system will be used for melting and casting aluminum, brass, and other non-ferrous metals to train undergraduate students in casting processes.

The UltraMelt TF-40 system provides several capabilities that distinguish it from alternative gas or induction furnaces currently available on the market. The system utilizes advanced induction heating technology to efficiently melt metal with significantly lower energy consumption, improved process control, and enhanced operator safety. Specifically, the UltraMelt TF-40 incorporates a remote handheld controller that allows students to automatically tilt and pour the molten metal while standing off to the side, away from the furnace. This safety feature is complemented by a digital control panel, also located safely on the side of the machine, that allows the operator to monitor and control program settings.

The requested equipment is being procured as a complete, fully integrated melting system consisting of matched induction furnaces, cooling equipment, crucibles, and technical support. The cooling system has been specifically sized and configured by the manufacturer to support dual TF-40 furnaces operating at full duty cycle while maintaining required operating conditions. The integrated nature of the system ensures its functionality and provides a single point of contact should any issues arise.

And finally, the system provides a compact footprint, which when combined with the built-in safety features, allows students to gain industry-relevant experience in an educational laboratory setting. The UltraMelt TF-40 system satisfies these requirements through a single, fully integrated solution designed specifically for casting applications.

3. Name of company/individual selling the item and why that source is the only possible source that can provide the required item(s):

Company Name/Individual: Induction Technology Corporation / Zach Jones
(Zach_Jones@inductiontech.com)

Zach Jones is a Sales Engineer with the Induction Technology Corporation and has worked directly with Mississippi State University to develop a system configuration that satisfies the operational requirements of the METAL laboratory. The Induction Technology Corporation is the sole designer and distributor of these specific induction melting systems, which include the UltraMelt TF-40 and its components. Consequently, they are the only company through which this setup can be purchased.

4. Estimated cost of item(s) and an explanation why the amount to be expended is considered reasonable:

The total cost of the proposed melting system is \$114,779.00, consisting of two UltraMelt TF-40 induction melting furnaces, a chilled cooling system, four spare crucibles, and start-up assistance and training. The quoted price also includes an educational university discount of \$8,624.00.

The proposed expenditure is considered reasonable due to the advanced functionality and safety features of the equipment, along with its system design. Because the two furnaces are engineered to operate simultaneously using a single chiller, this eliminates the need to purchase two separate cooling units. This configuration prevents additional costs in equipment acquisition, lab space, operation, and long-term maintenance. Overall, purchasing these items together as a system reduces upfront start-up costs and secures a single point of contact for support and service.

5. Explanation of the efforts taken by the department to determine this is the only source and the efforts used to obtain the best possible price:

The department evaluated alternative induction melting technologies available on the market and obtained a competing quote totaling \$155,760.10. However, the alternative system required manual pouring by operators and exhibited longer melt times, making it

less suitable for scheduled lab times. The department worked directly with the Induction Technology Corporation to identify a system uniquely capable of meeting the operational, educational, safety, and spatial requirements of the METAL laboratory.

During this evaluation, particular consideration was given to furnace capacity, automated pouring functionality, operator safety features, maintainability, and time efficiency. Through the department's technical interactions with Induction Technology Corporation, it was determined that alternative market options lacked the necessary safety and performance capabilities required for this undergraduate program. Working closely with the vendor allowed the department to negotiate a tailored system configuration that maximized educational value while securing a significant university discount to ensure a reasonable price point.

Any person or entity that objects and proposes that the commodity listed is not sole source and can be provided by another person or entity shall submit a written notice to:

Jennifer Mayfield, CPPO

Director of Procurement Services, Chief Procurement Officer

jmayfield@procurement.msstate.edu

Subject Line must read "Sole Source Objection"

The notice shall contain a detailed explanation of why the commodity is not a sole source procurement. Appropriate documentation shall also be submitted if applicable.

If after a review of the submitted notice and documents, MSU determines that the commodity in the proposed sole source request can be provided by another person or entity, then MSU will withdraw the sole source request publication from the procurement portal website and submit the procurement of the commodity to an advertised competitive bid or selection process.

If MSU determines after review that there is only one (1) source for the required commodity, then MSU will appeal to the Public Procurement Review Board. MSU will have the burden of proving that the commodity is only provided by one (1) source.

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