

Incubator Shakers
USER REQUIREMENT SPECIFICATIONS

Dakota BioWorx
2405 Research Park Way Brookings,
SD, 57006

South Dakota State University
Box 2201, SAD 200
1015 Campanile Ave
Brookings, SD 57007

U.S. DEPARTMENT OF COMMERCE
Economic Development Administration (EDA)
Award Number: 05-79-06192

Revision No.: 0

APPROVED

1 TABLE OF CONTENTS

1 TABLE OF CONTENTS.....	1
2 SCOPE	2

3 BACKGROUND 3

4 PROCESS DESCRIPTION 3

5 BASIS OF DESIGN 3

 5.1 CAPACITIES 3

 5.2 SKIDDED CONSTRUCTION..... 3

 5.3 HEALTH, SAFETY AND ENVIRONMENT (HSE) 4

 5.4 OPERATION, PERSONNEL AND AUTOMATION 4

 5.5 MATERIALS OF CONSTRUCTION 4

 5.6 RELIABILITY & MAINTENANCE..... 4

6 ABBREVIATIONS, ACRONYMS & DEFINITIONS 4

7 USER REQUIREMENT SPECIFICATIONS 5

8 COSTING DATA

9 OTHER PROVISIONS

2 SCOPE

The project will include 2 large, stackable, incubated orbital shaker. This document defines the requirements for this system. It describes overall requirements that must be met to produce the specific equipment requested. This scope covers procurement, delivery, and start-up support of the specified equipment; no installation is required.

This URS is the input document for:

- Equipment procurement purposes
- Equipment sizing
- Functional and technical specifications

Bids will be evaluated based on compliance with the URS, pricing, lead time, and the company’s experience and track record as they pertain to the relevant equipment. See Evaluation Criteria below.

Incubator Shakers
Revision No.: 0
Effective Date: 01-05-24
Award Number: 05-79-06192

3 BACKGROUND

The Dakota Bioproducts Innovation Institute is a research facility for the development of high-quality bioproducts. An incubated orbital shaker agitates liquid culture vessels and ensures high cell counts prior to inoculating larger standalone vessels. These pieces of equipment are the first step in a seed-train and are vital to developing DBII's technical process.

4 PROCESS DESCRIPTION

Incubated orbital shakers are basic pieces of equipment that provide a constant temperature and agitation rate to ensure proper growth conditions for liquid microbial cultures. Essentially, they are an enclosed cabinet with an in-built electric heater and fan for temperature control and an eccentric rotating base to provide agitation. The units can be designed as self-standing, stackable, tabletop mounted, or a combination of these. With the exception of standard power supply, they do not require utility hook ups.

5 BASIS OF DESIGN

5.1 Capacities

Incubated orbital shakers must be no larger than 4.5 feet in any dimensions, with the ability to handle at least 60 lbs. of glassware/liquid media. As there will be the potential for multiple simultaneous projects to occur, we will need 2 of these.

5.2 Skidded Construction

N/A

5.3 Health, Safety and Environment N/A

5.4 Operation, personnel and automation

N/A

5.5 Materials of Construction

Corrosion resistant interior.

5.6 Reliability & maintenance

Incubated orbital shakers must be reliable for 24/7/365 operation, with mechanisms in place to ensure that the user is aware if something is malfunctioning via alarm.

6 ABBREVIATIONS, ACRONYMS
& DEFINITIONS

Acronyms	Description
ASME-BPE	American Society of Mechanical Engineers BioProcessing Equipment
CIP	Clean In Place
GPM	Gallons per Minute
Acronyms	Description
HMI	Human Machine Interface
REQ	Required Attribute
OPT	Optional Attribute
P&ID	Piping & Instrumentation Diagram
PLC	Programable Logic Controller
RPM	Revolutions per Minute
SCADA	Supervisory Control and Data Acquisition
UL	Underwriters Laboratories
URS	User Requirements Specification

WFI	Water for Injection
-----	---------------------

7 USER REQUIREMENT SPECIFICATIONS

URS TABLE – Incubator Shakers		
Designation	Description	Type
URS-F1	Incubator must have load bearing capacity of 60lbs.	REQ
URS-F2	Temperature range must be ambient +10° C to at least 65 °C with variation at hold of ≤ 1°C.	REQ
URS-F3	Must have an adjustable agitation range between 20 and 400 RPM.	REQ
URS-F4	Power requirements must be compatible with a 120V 60hz supply.	REQ
URS-F5	Must not exceed 4.5 feet in any dimension (LxWxH).	REQ
URS-F6	Quote must include platform and removable glassware clamps.	REQ

URS-F7	Must retain parameters after power loss and restart automatically after power is restored.	REQ
URS-F8	Visual/audible alarm to temperature deviations and other malfunctions.	REQ
URS-F9	Must be able to accommodate at least ten 2L Erlenmeyer flask.	REQ
URS-F10		REQ
URS-F11		REQ
URS-F12		REQ
URS-F13		REQ
URS-F14		REQ
URS-F15		REQ
URS-F16		REQ

END OF SPECIFICATION

8 SELECTION CRITERIA

Vendors will be evaluated based on the following criteria:

Evaluation Criteria		
Description	Ranking	Weight
Mandatory Technical Requirements A review of your proposal to determine adherence with the REQ specifications and technical requirements.	1-10	30%
Evaluation Criteria		
Description	Ranking	Weight
Proposal Pricing Review of your proposal in relation to the services offered in the proposal. Proposals will be evaluated against competing proposals for cost effectiveness. Proposals will be evaluated to be reasonable and appropriate.	1-10	20%
Technical Response The technical response in your proposal portrays knowledge, experience, and professionalism. Relevant product features and/or specifications are available with your equipment other than those mandatory specifications allotted above.	1-10	10%

Lead Time A review of your product's lead time to meet business objectives.	1-10	15%
Product Warranty The available warranty, in scope, duration, and value, proposed with your product.	1-10	5%
Experience and Demonstrated Results Our evaluation will include a review of your history, your experience as it relates to the requirements within this RFP, evidence of past performance, quality and relevance of past work, references, and related items.	1-10	20%

9 RETURN BIDS TO

Craig Arnold craig@dakotabioworx.org
Bobby Markham Bobby.Markham@sdsstate.edu
Greg Opdahl Greg@dakotabioworx.org

10 OTHER PROVISIONS

Must meet 200 CFR buy America Provision• Title 49 Subtitle B Chapter VI [Part 661](#)

Federal Participation Disclosure – “This project will be partially funded with Federal funds from the United States Department of Commerce, Economic Development Administration and therefore is subject to the Federal laws and regulations associated with that program.”

Must meet Federal Contract provision 200 CFR Title 2 subtitle A Chapter II [Part 200](#)

Certification Relating to Prohibited Entity

For contractors, vendors, suppliers, or subcontractors who enter into a contract with the State of South Dakota by submitting a response to this

solicitation or agreeing to contract with the State, the bidder or offeror certifies and agrees that the following information is correct:

The bidder or offeror, in preparing its response or offer or in considering proposals submitted from qualified, potential vendors, suppliers, and subcontractors, or in the solicitation, selection, or commercial treatment of any vendor, supplier, or subcontractor, is not an entity, regardless of its principal place of business, that is ultimately owned or controlled, directly or indirectly, by a foreign national, a foreign parent entity, or foreign government from China, Iran, North Korea, Russia, Cuba, or Venezuela, as defined by South Dakota Executive Order 2023-02. It is understood and agreed that, if this certification is false, such false certification will constitute grounds for the State to reject the bid or response submitted by the bidder or offeror on this project and terminate any contract awarded based on the bid or response. The successful bidder or offeror further agrees to provide immediate written notice to the contracting executive branch agency if during the term of the contract it no longer complies with this certification and agrees such noncompliance may be grounds for contract termination.

RESTRICTION OF BOYCOTT OF ISRAEL

For contractors, vendors, suppliers, or subcontractors with five (5) or more employees who enter into a contract with the State of South Dakota that involves the expenditure of one hundred thousand dollars (\$100,000) or more, by submitting a response to this solicitation or agreeing to contract with the State, the bidder or offeror certifies and agrees that the following information is correct:

The bidder or offeror, in preparing its response or offer or in considering proposals submitted from qualified, potential vendors, suppliers, and subcontractors, or in the solicitation, selection, or commercial treatment of any vendor, supplier, or subcontractor, has not refused to transact business activities, has not terminated business activities, and has not taken other similar actions intended to limit its commercial relations, related to the subject matter of the bid or offer, with a person or entity on the basis of Israeli national origin, or residence or incorporation in Israel or its territories, with the specific intent to accomplish a boycott or divestment of Israel in a discriminatory manner. It is understood and agreed that, if this certification is false, such false certification will constitute grounds for the State to reject the bid or response submitted by the bidder or offeror on this project and terminate any contract awarded based on the bid or response. The successful bidder or offeror further agrees to provide immediate written notice to the contracting executive branch agency if during the term of the contract it no longer complies with this certification and agrees such noncompliance may be grounds for contract termination.

CERTIFICATION OF NO STATE LEGISLATOR INTEREST

Offeror (i) understands neither a state legislator nor a business in which a state legislator has an ownership interest may be directly or indirectly interested in any contract with the State that was

Incubator Shakers**Revision No.: 0****Effective Date: 01-05-24****Award Number: 05-79-06192**

authorized by any law passed during the term for which that legislator was elected, or within one year thereafter, and (ii) has read South Dakota Constitution Article 3, Section 12 and has had the opportunity to seek independent legal advice on the applicability of that provision to any Agreement entered into as a result of this RFP. By signing an Agreement pursuant to this RFP, Offeror hereby certifies that the Agreement is not made in violation of the South Dakota Constitution Article 3, Section 12