

ITEM OPPORTUNITY SYNOPSIS

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| Scouting Number: | 2024-164 |
| Name of the item to be scouted: | Micro-respiration Reading System |
| State item to be used in: | Connecticut |

Describe the Item:

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| <p>Please describe the item application/the end use of the item.</p> | <p>The Ecosystems and Aquaculture Division requires a replacement core 24-well micro-respiration reader set that is compatible with the existing Loligo micro-respiration system used at NOAA. The Loligo micro-respiration system measures oxygen respiration for marine larvae, including both bivalves and finfish. The respiration chamber shall allow for individual measurement on respiration on individual marine larvae at small sample volumes (80 ul) and must be able to hold 24 samples at one time. The micro-respiration wells shall include sensors to determine oxygen respiration for each of the wells, with the appropriate fiber cables to connect to the reader and the computer. The system shall be airtight to oxygen absorption from the atmosphere once the experiment is started. The system shall accommodate animals in multiple size ranges from 80 um to 1700 µm. See Section 4 for a full listing of technical specifications, including salient characteristics.</p> |
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Supplier Information:

Type of Supplier Being Sought (select from the list below):

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| Manufacturer | |
| Contract Manufacturer | |
| Distributor | x |
| Other (Please Specify) | |

Reason for Scouting Submission (select from the list below)

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|-----------------------------------|---|
| 2nd Supplier | |
| Price | |
| Re-Shore | |
| Past supplier no longer available | |
| New Product Startup | |
| BABA | x |
| Other (Please Specify) | |

Summary of Technical Specifications and Performance Requirements:

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| Describe the manufacturing processes (elaborate to provide as much detail as possible) | Part being sought is manufactured and distributed by a sole source in Denmark. See specification |
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| <p>Provide dimensions / size / tolerances / performance specifications of the item</p> | <p>Oxygen channels 24 Power adapter 100 - 240 VAC 50 / 60 Hz in Power adapter 18 - 24 VDC out Communication interface USB 2.0 Dimensions 163 x 89 x 22 mm Weight 380 g OS WIN 10 Oxygen unit % oxygen saturation, % air saturation, kPa, Torr, mg/L, mmol or mL/L Measurement range 0 - 235 % air saturation Resolution +/- 2 % air saturation Precision +/- 5 % air saturation Drift < 1% air saturation within one week (sample interval 10 min) Response Time < 30 sec Use this 24-channel optical fluorescence oxygen system for high through-put (closed) microplate respirometry, or for monitoring oxygen conditions in (open) disposable plastic well plates. Using this reader with our re-usable 24-well glass microplates, oxygen consumption rates of tiny organisms can be measured in real-time inside 80-1700 µl closed gas-tight wells fitted with non-invasive and re-usable oxygen sensor spots. Up to 9 extra, and less costly, readers can be daisy-chained to the reader and splitter box included in this system, e.g., for real-time measurements of oxygen in up to 240 wells from a single PC.</p> |
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| List required materials needed to make the product, including materials of product components, if applicable | Unknown, except for what is provided within the attached specifications sheets. |
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Are there applicable certification requirements?

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| Yes | |
| No | x |
| Please explain: | |

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| Are there any applicable regulations that apply to the production of this item? | |
| Yes | |
| No | x |
| Please explain: | |
| Are there any other standards / requirements? | |
| Yes | |
| No | x |
| Please explain: | |
| NAICS CODES: | |
| NAICS 1 | 334516 Analytical laboratory instrument manufacturing |
| NAICS 2 | |
| Additional Comments: | |
| Additional technical comments: | Product/items must be compatible (form, fit and function) with existing Logilo Micro-Respirator systems and software. NOAA requires replacement parts for a NOAA owned system. Parts required must be compatible. |
| Volume and Pricing: | |
| Estimated Potential Business Volume (i.e. #units per day, month, year): | 1 time purchase of approximately \$11,605.00. Additional parts may be required as needed (replacement parts), but those needs are unknown at this time. |
| Estimated Target Price/Unit Cost Information: | Unit cost is \$11,605.00 per unit, including shipping costs. |
| Delivery Requirements: | |
| When is it needed by? (Immediate, 30 days, 6 months, etc.) | Delivery is expected within 30 days after award. |
| Describe packaging requirements (i.e. individually/group packaging, etc.) | N/A |
| Where will this item be shipped? | Milford, CT 06460 |
| Additional Comments: | |
| Is there other information you would like to include? | This is a Simplified Acquisition, which has a shorter lead time to completion than an action over \$250,000.00. It is expected that this requirement will be awarded within the next 30 days, and any timely scouting (requested completed within 15 days from submission) would be appreciated to align with Simplified Acquisition requirements for posting and the Buy American Act Waiver process. |

Specifications table for micro plate reader system

| Specifications | Micro plate reader system |
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| Compatible oxygen sensor | Sensor spots |
| Oxygen channels | 24 |
| Power supply | 18-24 V DC |
| Power adapter | 100-240V AC in; 18-24 V DC out |
| Communication interface | USB 2.0 |
| Dimensions [mm] | 163 x 89 x 22 |
| Weight [g] | 380 |
| Windows version | WIN10 |
| Oxygen unit | % oxygen saturation, % air saturation, kPa, Torr, mg/L, mmol or ml/L. |
| Measurement range | 0 – 50 % oxygen saturation 0 – 235 % air saturation 0 – 50 kPa 0 – 235 Torr 0 – 22,5 mg/L 0 – 700 µmol 0 – 22,5 ml/L |
| Resolution | ± 0.4 % O ₂ at 20.9 % O ₂ ± 4 hPa at 207 hPa ± 5 µmol at 283.1 µmol ± 2 % air saturation at 100 % air saturation |
| Precision | ± 1 % O ₂ at 20.9 % O ₂ ± 5 % air saturation at 100 % air saturation |
| Drift at 0 % oxygen (sampling interval 10 min) | < 0.2 % O ₂ within one week < 1 % air saturation within one week |
| Measurement temperature range | 5 – 45 °C |
| Response time (T90) | < 30 sec. |
| Sensor properties | MINI |
| Compatibility | Aqueous solutions, ethanol, methanol |
| Cross-sensitivity to | Reduced to ionic strength (salinity); high concentration of small fluorescent molecules in the visible range can interfere |
| Cleaning procedures | 3 % H ₂ O ₂ , Cleaning in place (CIP, 5 % NaOH, 90 °C, 194 °F) Acidic agents (HCl, H ₂ SO ₄), max. 4 – 5 % |
| Calibration | one- or two-point calibration |