

**Proposal For:**



RFB 16-2025

F -16-2025

Luminescent Dissolved Oxygen Analyzer with Digital Controller for Digital Sensors

**Submitted By:**



**Loveland, Colorado**

**February 18<sup>th</sup> 2025**

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## 1. Cover Letter

Stephanie Herman  
Hach Company  
PO Box 389  
Loveland, CO 80539

2/18/2025

Lexington-Fayette Urban County Government

Lexington, KY  
Attn: Brian Marcum  
200 East Main Street  
Lexington, KY 40507

RE: IFB 16-2025 Luminescent Dissolved Oxygen Analyzer with Digital Controller for Digital Sensors

Hello Brian,

Thank you for giving Hach Company the opportunity to submit a Proposal for Luminescent Dissolved Oxygen Analyzer with Digital Controller for Digital Sensors. Hach has vast experience in the design and production of Process Instrumentation.

Hach has submitted the following documents:

- Bid Packet
- Hach Contract Addendum
- Manufacturer Qualifications
- Data Sheets for the LDO model 2 and Sc4500 controller

The most integral part, of course, are the completed and signed Bid Pricing Forms. Hach is offering a 18% discount on process instrumentation and this includes free shipping.

The Contract Addendum is intended to provide reasonable revisions to the Lexington-Fayette Urban County Government terms and conditions for the purpose of enabling the parties to enter into an agreement without prolonged or complex negotiations. Accordingly, the parties incorporate this Addendum into the Bid Contract and make it an integral part thereof, taking precedence over any contrary terms or conditions.

Our Standard Lead time is 30 days ARO. Standard Payment Terms are NET 30.

Hach Company values your business and looks forward to a long and successful partnership.

Respectfully,



Stephanie Herman  
Project Specialist, Hach  
[stherman@hach.com](mailto:stherman@hach.com)

## 2. Bid Packet



**LEXINGTON**

## Lexington-Fayette Urban County Government

Lexington, Kentucky  
Horse Capital of the World

Division of Procurement

Date of Issue: February 3, 2025

### INVITATION TO BID #16-2025 LUMINESCENT DISSOLVED OXYGEN ANALYZER WITH DIGITAL CONTROLLER FOR DIGITAL SENSORS

**Bid Opening Date:** February 19, 2025

**Bid Opening Time:** 2:00 PM

**Address:** All bids must be submitted on line at <https://lexingtonky.ionwave.net/>

**Type of Bid:** Price Contract

**Pre Bid Meeting:** N/A

**Pre Bid Time:** N/A

**Address:** N/A

Sealed bids will ONLY be received online at <https://lexingtonky.ionwave.net/> until **2:00 PM**, prevailing local time on **02/19/2025**. Bids must be submitted/uploaded by the above-mentioned date and time.

Bids are to include all shipping, handling and associated fees to the point of delivery (unless otherwise specified in the bid documents below) located at: Lexington, KY

<input checked="checked" type="checkbox"/> Bid Specifications Met <u>          </u> <b>Check One:</b> <input type="checkbox"/> Exceptions to Bid Specifications. <i>Exceptions shall be itemized and attached to bid proposal submitted.</i>	<b>Proposed Delivery:</b> <u>          </u> days after acceptance of bid.
<b>Procurement Card Usage</b> —The Lexington-Fayette Urban County Government may be using Procurement Cards to purchase goods and services and also to make payments. Will you accept Procurement Cards? <input checked="checked" type="checkbox"/> Yes <input type="checkbox"/> No	

**To expedite award, the forms in this document should be completed and uploaded with your bid.**

Submitted by: HACH COMPANY

*Firm Name*

5600 Lindbergh dr

*Address*

Loveland CO 80538

*City, State & Zip*

**Bid must be signed:**

Project Specialist \*Subject to contract addendum attached hereto

**Signature of Authorized Company Representative – Title**

Stephanie Herman

*Representative's Name (Typed or printed)*

1-800-227-4224

*Area Code - Phone – Extension*

*Fax #*

bids@hach.com

*E-Mail Address*

***The Affidavit in this bid must be completed before your firm can be considered for award of this contract.***

**AFFIDAVIT**

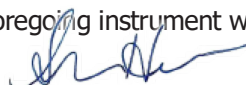
Comes the Affiant, Stephanie Herman, and after being first duly sworn under penalty of perjury as follows:

1. His/her name is Stephanie Herman and he/she is the individual submitting the bid or is the authorized representative of Hach Company, the entity submitting the bid (hereinafter referred to as "Bidder")
2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. Bidder has authorized the Division of Procurement to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
5. Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.
6. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."
7. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

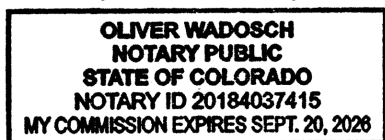
Further, Affiant sayeth naught. \_\_\_\_\_

**STATE OF** Colorado

**COUNTY OF** Larimer

The foregoing instrument was subscribed, sworn to and acknowledged before me  
by  on this the 17th day  
of February, 2025.

My Commission expires: 9/20/2026



  
NOTARY PUBLIC, STATE AT LARGE DAN 20184037415-353808

***Please refer to Section II. Bid Conditions, Item "U" prior to completing this form.***



## **I. GREEN PROCUREMENT**

### **A. ENERGY**

The Lexington-Fayette Urban County Government is committed to protecting our environment and being fiscally responsible to our citizens.

The Lexington-Fayette Urban County Government mandates the use of Energy Star compliant products if they are available in the marketplace (go to [www.Energystar.gov](http://www.Energystar.gov)). If these products are available, but not submitted in your pricing, your bid will be rejected as non-compliant.

ENERGY STAR is a government program that offers businesses and consumers energy-efficient solutions, making it easy to save money while protecting the environment for future generations.

#### Key Benefits

These products use 25 to 50% less energy  
Reduced energy costs without compromising quality or performance  
Reduced air pollution because fewer fossil fuels are burned  
Significant return on investment  
Extended product life and decreased maintenance

### **B. GREEN SEAL CERTIFIED PRODUCTS**

The Lexington-Fayette Urban County Government is also committed to using other environmentally friendly products that do not negatively impact our environment. Green Seal is a non-profit organization devoted to environmental standard setting, product certification, and public education.

Go to [www.Greenseal.org](http://www.Greenseal.org) to find available certified products. These products will have a reduced impact on the environment and on human health. The products to be used must be pre-approved by the LFUCG prior to commencement of any work in any LFUCG facility. If a Green Seal product is not available, the LFUCG must provide a signed waiver to use an alternate product. Please provide information on the Green Seal products being used with your bid response.

### **C. GREEN COMMUNITY**

**The Lexington-Fayette Urban County Government (LFUCG) serves as a principal, along with the University of Kentucky and Fayette County Public Schools, in the Bluegrass Partnership for a Green Community. The Purchasing Team component of the Partnership collaborates on economy of scale purchasing that promotes and enhances environmental initiatives. Specifically, when applicable, each principal is interested in obtaining best value products and/or services which promote environment initiatives via solicitations and awards from the other principals.**

**If your company is the successful bidder on this Invitation For Bid, do you agree to extend the same product/service pricing to the other principals of the Bluegrass Partnership for a Green Community (i.e. University of Kentucky and Fayette County Schools) if requested?**

Yes ☒ No ☐

## **II. Bid Conditions**

- A. No bid may be withdrawn for a period of sixty (60) days after the date and time set for opening.
- B. No bid may be altered after the date and time set for opening. In the case of obvious errors, the Division of Procurement may permit the withdrawal of a bid. The decision as to whether a bid may be withdrawn shall be that of the Division of Procurement.
- C. Acceptance of this proposal shall be enactment of an Ordinance by the Urban County Council.
- D. The bidder agrees that the Urban County Government reserves the right to reject any and all bids for either fiscal

or technical reasons, and to award each part of the bid separately, all parts to one vendor or all parts to multiple vendors.

- E. Minor exceptions may not eliminate the bidder. The decision as to whether any exception is minor shall be entirely that of the head of the requisitioning Department or Division and the Director of the Division of Procurement. The Urban County Government may waive technicalities and informalities where such waiver would best serve the interests of the Urban County Government.
- F. Manufacturer's catalogue numbers, trade names, etc., where shown herein are for descriptive purposes and are to guide the bidder in interpreting the standard of quality, design, and performance desired, and shall not be construed to exclude proposals based on furnishing other types of materials and/or services. However, any substitution or departure proposed by the bidder must be clearly noted and described; otherwise, it will be assumed that the bidder intends to supply items specifically mentioned in this Invitation for Bids.
- G. The Urban County Government may require demonstrations of the materials proposed herein prior to acceptance of this proposal.
- H. Bids must be submitted on this form and must be signed by the bidder or his authorized representative. Unsigned bids will not be considered.
- I. Bids must be submitted prior to the date and time indicated for opening. Bids submitted after this time will not be considered.
- J. All bids mailed must be submitted in the Ion Wave online portal at <https://lexingtonky.ionwave.net/>
- K. Bidder is requested to show both unit prices and lot prices. In the event of error, the unit price shall prevail.
- L. A certified check or Bid Bond in the amount of XX percent of the bid price must be attached hereto. This check must be made payable to the Lexington-Fayette Urban County Government, and will be returned when the material and/or services specified herein have been delivered in accordance with specifications. In the event of failure to perform within the time period set forth in this bid, it is agreed the certified check may be cashed and the funds retained by the Lexington-Fayette Urban County Government as liquidated damages. Checks of unsuccessful bidders will be returned when the bid has been awarded.
- M. The delivery dates specified by bidder may be a factor in the determination of the successful bidder.
- N. Tabulations of bids received may be mailed to bidders. Bidders requesting tabulations must enclose a stamped, self-addressed envelope with the bid.
- O. The Lexington-Fayette Urban County Government is exempt from Kentucky Sales Tax and Federal Excise Tax on materials purchased from this bid invitation. Materials purchased by the bidder for construction projects are not tax exempt and are the sole responsibility of the bidder.
- P. All material furnished hereunder must be in full compliance with OSHA regulations.
- Q. If more than one bid is offered by one party, or by any person or persons representing a party, all such bids shall be rejected.
- R. Signature on the face of this bid by the Bidder or his authorized representative shall be construed as acceptance of and compliance with all terms and conditions contained herein.
- S. The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, religion, sex (including pregnancy, sexual orientation or gender identity), national origin, disability, age, genetic information, political affiliation, or veteran status, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.
- T. The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any county, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly

or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;*
- (2) The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;*
- (3) The contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and*
- (4) The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.*

The Act further provides:

KRS 45.610. Hiring minorities - Information required

- (1) For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.*
- (2) Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.*

KRS 45.620. Action against contractor - Hiring of minority contractor or subcontractor

- (1) If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.*
- (2) If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 to 45.640.*
- (3) The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.*

KRS 45.630 Termination of existing employee not required, when

*Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.*

KRS 45.640 Minimum skills

*Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.*

It is recommended that all of the provisions above quoted to be included as special conditions in each contract.

In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

- U. Any party, firm or individual submitting a proposal pursuant to this invitation must be in compliance with the requirements of the Lexington-Fayette Urban County Government regarding taxes and fees before they can be considered for award of this invitation and must maintain a "current" status with regard to those taxes and fees throughout the term of the contract. The contractor must be in compliance with Chapter 13 from the Code of Ordinances of the Lexington-Fayette Urban County Government. The contractor must be in compliance with Ordinance 35-2000 pursuant to contractor registration with the Division of Building Inspection. If applicable, said business must have a Fayette County business license.

Pursuant to KRS 45A.343 and KRS 45A.345, the contractor shall

- (1) *Reveal any final determination of a violation by the contractor within the previous five year period pursuant to KRS Chapters 136 (corporation and utility taxes), 139 (sales and use taxes), 141 (income taxes), 337 (wages and hours), 338 (occupational safety and health of employees), 341 (unemployment and compensation) and 342 (labor and human rights) that apply to the contractor; and*
- (2) *Be in continuous compliance with the above-mentioned KRS provisions that apply to the contractor for the duration of the contract.*

A contractor's failure to reveal the above or to comply with such provisions for the duration of the contract shall be grounds for cancellation of the contract and disqualification of the contractor from eligibility for future contracts for a period of two (2) years.

- V. Vendors who respond to this invitation have the right to file a notice of contention associated with the bid process or to file a notice of appeal of the recommendation made by the Director of Procurement resulting from this invitation.

Notice of contention with the bid process must be filed within 3 business days of the bid/proposal opening by (1) sending a written notice, including sufficient documentation to support contention, to the Director of the Division of Procurement or (2) submitting a written request for a meeting with the Director of Procurement to explain his/her contention with the bid process. After consulting with the Commissioner of Finance the Chief Administrative Officer and reviewing the documentation and/or hearing the vendor, the Director of Procurement shall promptly respond in writing findings as to the compliance with bid processes. If, based on this review, a bid process irregularity is deemed to have occurred the Director of Procurement will consult with the Commissioner of Finance, the Chief Administrative Officer and the Department of Law as to the appropriate remedy.

Notice of appeal of a bid recommendation must be filed within 3 business days of the bid recommendation by (1) sending a written notice, including sufficient documentation to support appeal, to the Director, Division of Procurement or (2) submitting a written request for a meeting with the Director of Procurement to explain his appeal. After reviewing the documentation and/or hearing the vendor and consulting with the Commissioner of Finance and the Chief Administrative Officer, the Director of Procurement shall in writing, affirm or withdraw the recommendation.

### **III. Procurement Contract Bid Conditions**

- A. The terms of this agreement shall be for **1-2** year period from the date of acceptance of this contract by the Lexington-Fayette Urban County Government. This agreement may be automatically extended for an additional **2-1** year(s) renewal. This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.
- B. Price Changes **(Space Checked Applies)**
  - (XXX)1. Prices quoted in response to the Invitation shall be firm prices for the first 365 days of the Procurement Contract. After 365 days, prices may be subject to revision and such changes shall be based on general industry changes. Revision may be either increases or decreases and may be requested by either party. There will be no more than one (1) price adjustment per year. Requests for price changes shall be received in writing at least twenty (20) days prior to the effective date and are subject to written acceptance before becoming effective. Proof of the validity of a request for revision shall be responsibility of the requesting party. The Lexington-Fayette Urban County Government shall receive the benefit of any decline that the seller shall offer his other accounts.
  - ( ) 2. No provision for price change is made herein. Prices are to be firm for the term of this contract.
  - ( ) 3. See bid specifications.
- C. If any contract item is not available from the vendor, the Lexington-Fayette Urban County Government, at its option, may permit the item to be back-ordered or may procure the item on the open market.
- D. All invoices must bear reference to the Lexington-Fayette Urban County Government Purchasing document numbers which are being billed.
- E. This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.
- F. No substitutions for articles specified herein may be made without prior approval of the Division of Procurement.

## EQUAL OPPORTUNITY AGREEMENT

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### Standard Title VI Assurance

The Lexington Fayette-Urban County Government, (hereinafter referred to as the "Recipient") hereby agrees that as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78Stat.252, 42 U.S.C. 2000d-4 (hereinafter referred to as the "Act"), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, (49 CFR, Part 21) Nondiscrimination in Federally Assisted Program of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the "Regulations") and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the U.S. Department of Transportation, including the Federal Highway Administration, and hereby gives assurance that will promptly take any necessary measures to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

### The Law


- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- Section 503 of the Rehabilitation Act of 1973 states: *The Contractor will not discriminate against any employee or applicant for employment because of physical or mental disability.*
- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.
- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states: *The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.*

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

### Bidders

*I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, veteran status, disability and age.*



Signature

Hach Company

Name of Business


## **GENERAL PROVISIONS OF BID CONTRACT**

By signing the below, bidder acknowledges that it understands and agrees with the following provisions related to its bid response and the provision of any goods or services to LFUCG upon selection by LFUCG pursuant to the bid request:

1. Bidder shall comply with all Federal, State & Local regulations concerning this type of service or good. All applicable state laws, ordinances and resolutions (including but not limited to Section 2-33 (Discrimination due to sexual orientation or gender identity) and Chapter 13 (Licenses and Regulations) of the Lexington-Fayette Urban County Government Code of Ordinances, and Resolution No. 484-17 (Minority, Women, and Veteran-Owned Businesses)) and the regulations of all authorities having jurisdiction over the project shall apply to the contract, and shall be deemed to be incorporated herein by reference.
2. Failure to submit ALL forms and information required by LFUCG may be grounds for disqualification.
3. Addenda: All addenda and IonWave Q&A, if any, must be considered by the bidder in making its response, and such addenda shall be made a part of the requirements of the bid contract. Before submitting a bid response, it is incumbent upon bidder to be informed as to whether any addenda have been issued, and the failure of the bidder to cover any such addenda may result in disqualification of that response.
4. Bid Reservations: LFUCG reserves the right to reject any or all bid responses, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
5. Liability: LFUCG is not responsible for any cost incurred by bidder in the preparation of its response.
6. Changes/Alterations: Bidder may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the bid response, and received by LFUCG prior to the scheduled closing time for receipt of bids, will be accepted. The bid response when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of bid response".
7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from any bidder.
8. Bribery Clause: By his/her signature on its response, bidder certifies that no employee of his/hers, any affiliate or subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.
9. Additional Information: While not necessary, the bidder may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the bid response. Additional documentation shall not serve as a substitute for other documentation which is required by the LFUCG to be submitted with the bid response.
10. Ambiguity, Conflict or other Errors: If a bidder discovers any ambiguity, conflict, discrepancy, omission or other error in the bid request of LFUCG, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
11. Agreement to Bid Terms: In submitting its bid response, the bidder agrees that it has carefully examined the specifications and all provisions relating to LFUCG's bid request, including but not limited to the bid contract. By submission of its bid response, bidder states that it understands the meaning, intent and requirements of LFUCG's bid request and agrees to the same. The successful bidder shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to bidder shall be authorized for services, expenses, or goods reasonably covered under these provisions that the bidder omits from its bid response.
12. Cancellation: LFUCG may unilaterally terminate the bid contract with the selected bidder(s) at any time, with or without cause, by providing at least thirty (30) days advance written notice unless a different advance written notice

period is negotiated prior to contract approval. Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the LFUCG. Payment for those goods and services shall not be unreasonably withheld.

13. Assignment of Contract: The selected bidder(s) shall not assign or subcontract any portion of the bid contract with LFUCG without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
14. No Waiver: No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this bid proposal or bid contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
15. Authority to do Business: Each bidder must be authorized to do business under the laws of the Commonwealth of Kentucky and must be in good standing and have full legal capacity to provide the goods or services specified in the bid proposal. Each bidder must have all necessary right and lawful authority to submit the bid response and enter into the bid contract for the full term hereof including any necessary corporate or other action authorizing the bidder to submit the bid response and enter into this bid contract. If requested, the bidder will provide LFUCG with a copy of a corporate resolution authorizing this action and/or a letter from an attorney confirming that the proposer is authorized to do business in the Commonwealth of Kentucky. All bid responses must be signed by a duly authorized officer, agent or employee of the bidder.
16. Governing Law: This bid request and bid contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this matter, the bidder agrees that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division and that the bidder expressly consents to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to these matters or any rights or obligations arising thereunder.
17. Ability to Meet Obligations: Bidder affirmatively states that there are no actions, suits or proceedings of any kind pending against bidder or, to the knowledge of the bidder, threatened against the bidder before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of bidder to perform its obligations under this bid response or bid contract, or which question the legality, validity or enforceability hereof or thereof.
18. Price Discrepancy: When applicable, in case of price discrepancy, unit bid price written in words will prevail followed by unit price written in numbers then total amount bid per line item.
19. Bidder understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Bidder is an independent contractor at all times related to the bid response or bid contract.
20. Contractor [or Vendor or Vendor's Employees] will not appropriate or make use of the Lexington-Fayette Urban County Government (LFUCG) name or any of its trade or service marks or property (including but not limited to any logo or seal), in any promotion, endorsement, advertisement, testimonial or similar use without the prior written consent of the government. If such consent is granted LFUCG reserves the unilateral right, in its sole discretion, to immediately terminate and revoke such use for any reason whatsoever. Contractor agrees that it shall cease and desist from any unauthorized use immediately upon being notified by LFUCG.
21. If any term or provision of this bid contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.

  
\_\_\_\_\_  
Signature

2/18/25  
\_\_\_\_\_  
Date

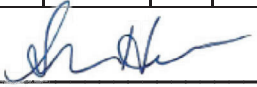
\*Subject to contract addendum attached hereto



# **WORKFORCE ANALYSIS FORM**

Name of Organization: Hach Company

Categories	Total	White (Not Hispanic or Latino)		Hispanic or Latino		Black or African- American (Not Hispanic or Latino)		Native Hawaiian and Other Pacific Islander (Not Hispanic or Latino)		Asian (Not Hispanic or Latino)		American Indian or Alaskan Native (not Hispanic or Latino)		Two or more races (Not Hispanic or Latino)		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Administrators	191	112	45	10	3	6	1	1	1	3	1	0	0	4	4	136	55
Professionals	343	173	103	11	12	5	4	1	0	17	12	0	1	0	4	207	136
Superintendents	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Supervisors	234	123	74	10	8	8	0	0	0	5	3	1	0	1	1	148	86
Foremen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Technicians	266	181	25	21	5	18	2	0	0	9	0	0	0	4	1	233	33
Protective Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Para-Professionals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office/Clerical	152	26	77	6	23	3	8	0	0	1	3	0	0	1	4	37	115
Skilled Craft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service/Maintenance	571	175	127	86	88	47	20	0	0	8	9	1	2	6	2	323	248
<b>Total:</b>	<b>1758</b>	<b>791</b>	<b>451</b>	<b>144</b>	<b>139</b>	<b>87</b>	<b>35</b>	<b>2</b>	<b>1</b>	<b>43</b>	<b>28</b>	<b>2</b>	<b>3</b>	<b>16</b>	<b>16</b>	<b>1085</b>	<b>673</b>

Prepared by:  Date: 2 18 2025  
 (Name and Title) Revised 2015-Dec-15

**DIRECTOR, DIVISION OF PROCUREMENT  
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
200 EAST MAIN STREET  
LEXINGTON, KENTUCKY 40507**

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE  
EQUAL EMPLOYMENT OPPORTUNITIES AND DBE CONTRACT PARTICIPATION**

The Lexington-Fayette Urban County Government has a Certified Minority and Women Business Enterprise seventeen percent (17%) minimum goal including minimum subgoals of five percent (5%) for Minority Business Enterprises (MBE) and a subgoal of twelve percent (12%) for Women Business Enterprises (WBE); a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and/or Certified Service- Disabled Veteran Owned Businesses; and a goal of utilizing Disadvantaged Business Enterprises (DBE), where applicable, for government contracts.

For assistance in locating certified DBEs, MBEs, WBEs, VOSBs and/or VOSBs, contact Sherita Miller at 859/258-3320 or by writing the address listed below:

Sherita Miller, MPA, CPSD  
Minority Business Enterprise Liaison  
Division of Procurement  
Lexington-Fayette Urban County Government  
200 East Main Street  
Lexington, Kentucky 40507  
[smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov)  
859-258-3323



# LEXINGTON

## MINORITY BUSINESS ENTERPRISE PROGRAM

Sherita Miller, MPA, CPSD  
Minority Business Enterprise Liaison  
Division of Procurement  
Lexington-Fayette Urban County Government  
200 East Main Street  
Lexington, KY 40507  
[smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov)  
859-258-3323

**OUR MISSION:** The mission of the Minority Business Enterprise Program (MBEP) is to facilitate the full participation of minority and women owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long- term economic viability of Lexington-Fayette Urban County Government.

To that end the urban county council adopted and implemented Resolution 272-2024 – a Certified Minority and Women Business Enterprise seventeen percent (17%) minimum goal including minimum subgoals of five percent (5%) for Minority Business Enterprises (MBE) and a subgoal of twelve percent (12%) for Women Business Enterprises (WBE); a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and/or Certified Service- Disabled Veteran Owned Businesses; and a goal of utilizing Disadvantaged Business Enterprises (DBE), where applicable, for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals:

***Certified Disadvantaged Business Enterprise (DBE)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a person(s) who is socially and economically disadvantaged as define by 49 CFR subpart 26.

***Certified Minority Business Enterprise (MBE)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by an ethnic minority (i.e. Black American, Asian American, Hispanic American, Native American)

***Certified Women Business Enterprise (WBE)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a woman.

***Certified Veteran-Owned Small Business (VOSB)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

***Certified Service -Disabled Veteran Owned Small Business (SDVOSB)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a disabled veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

The term “Certified” shall mean the business is appropriately certified, licensed, verified, or validated by an organization or entity recognized by the Division of Procurement as having the appropriate credentials to make a determination as to the status of the business.

The following certifications are recognized and accepted by the MBEP:

Kentucky Transportation Cabinet (KYTC), Disadvantaged Business Enterprise (DBE)  
Kentucky Minority and Women Business Enterprise (MWBE)  
Women's Business Enterprise National Council (WBENC)  
National Women Business Owners Corporation (NWBOC)  
National Minority Supplier Development Council (NMSDC)  
Tri-State Minority Supplier Development Council (TSMSSDC)  
U.S. Small Business Administration Veteran Small Business Certification (VetCert)  
Kentucky Service- Disabled Veteran Owned Small Business (SDVOSB)

To comply with Resolution 272-2024, prime contractors, minority and women business enterprises, veteran owned small businesses, and service-disabled veteran owned small businesses must complete monthly contract compliance audits in the Diverse Business Management Compliance system, <https://lexingtonky.diversitycompliance.com/>

A list of organizations that certify and/or maintain lists of certified businesses (i.e. DBE, MBE, WBE, VOSB and/or SDVOSB) is available upon request by emailing, Sherita Miller, [smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov).

N/A Hach Company is a sole source manufacturing company that does not subcontract.



**LEXINGTON**

**LFUCG MWDBE PARTICIPATION FORM**

**Bid/RFP/Quote Reference #** \_\_\_\_\_

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to the Division of Procurement for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWBE Company, Name, Address, Phone, Email	DBE/MBE WBE/VOSB/SDVOSB	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1.				
2.				
3.				
4.				

The undersigned company representative submits the above list of MDWBE and veteran firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

N/A

\_\_\_\_\_  
**Company**

\_\_\_\_\_  
**Company Representative**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Title**



**LEXINGTON**

N/A Hach Company is a sole source manufacturing company that does not subcontract.

**LFUCG MWDBE SUBSTITUTION FORM**

**Bid/RFP/Quote Reference #** \_\_\_\_\_

The substituted MWDBE and/or veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to the Division of Procurement for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project. **Note: Form required if a subcontractor is being substituted on a contract.**

<b>SUBSTITUTED DBE/MBE/WBE/VOSB Company Name, Address, Phone, Email</b>	<b>DBE/MBE/WBE/VOSB/SDVOSB Formally Contracted/ Name, Address, Phone, Email</b>	<b>Work to Be Performed</b>	<b>Reason for the Substitution</b>	<b>Total Dollar Value of the Work</b>	<b>% Value of Total Contract</b>
1.					
2.					
3.					
4.					

The undersigned acknowledges that any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

N/A

\_\_\_\_\_  
**Company**

\_\_\_\_\_  
**Company Representative**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Title**



## DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS AND OUTREACH PLANS

As affirmed in Resolution Number 272-2024, the Urban County Council has adopted an annual aspirational goal of utilizing at least seventeen percent (17%) of public funds spend from certain discretionary agreements with certified Minority Business Enterprises (MBEs) and certified Woman Business Enterprises (WBEs); utilizing at least three percent (3%) of public funds from certain discretionary agreements with Certified Veteran-Owned Small Business and Certified Service-Disabled Veteran-Owned Small Businesses (VOSBs); and utilizing Disadvantaged Business Enterprises (DBEs) where applicable. Bidders should make every effort to achieve these goals.

Therefore, as an element of the responsiveness of the bid, all Bidders are required to submit documentation of their good faith and outreach efforts to ensure all businesses, including small and disadvantaged businesses such as minority-, woman-, and veteran-owned businesses, have an equal opportunity to compete for and participate in the performance of any subcontracts resulting from this procurement. Examples of good faith and outreach efforts that satisfy this requirement to encourage the participation of, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs include:

1. Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women, and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to participate.
2. Attended LFUCG Procurement Economic Inclusion Outreach event(s) within the past year to meet new small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to partner with on LFUCG contracts and procurements.
3. Attended pre-bid/pre-proposal meetings that were scheduled by LFUCG to inform small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs of subcontracting opportunities.
4. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs.
5. Requested a list of certified small, DBE, MBE, WBE, VOSB and/or SDVOSB subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).
6. Contacted organizations that work with small, DBE, MBE, WBE, and VOSB companies for assistance in finding certified DBEs, MBEs, WBEs, VOSB and/or SDVOSBs to work on this project. Those contacted and their responses must be a part of the bidder's outreach efforts documentation.
7. Sent written notices, by certified mail, email, or facsimile, to qualified, certified small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.
8. Followed up initial solicitations by contacting small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs via tailored communications to determine their level of interest.

9. Provided the interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs with adequate and timely information about the plans, specifications, and requirements of the contract.
10. Selected portions of the work to be performed by small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs in order to increase the likelihood of subcontracting participation. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate small, DBE, MBE, WBE, VOSB and/or SDVOSB participation, even when the prime contractor may otherwise perform these work items with its own workforce.
11. Negotiated in good faith with interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection must be so noted in writing with a description as to why an agreement could not be reached.
12. Included documentation of quotations received from interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs that were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.
  - a. Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a small business', DBE's MBE's, WBE's, VOSB's and/or SDVOSB's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy the participation goals.
13. Made an effort to offer assistance to or refer interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal.
14. Made efforts to expand the search for small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs beyond the usual geographic boundaries.
15. Other – any other evidence that the bidder submits that may demonstrate that the bidder has made reasonable efforts to include small, DBE, MBE, WBE, VOSB and/or SDVOSB participation.

Bidder must document, with specificity, each of the efforts it made to include small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs as subcontractors in the procurement, including the date on which each effort was made, the medium through which each effort was made, and the outcome of each effort.

**Note: Failure to submit the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to review by the MBE Liaison. Documentation of Good Faith and Outreach Efforts must be submitted with the Bid, regardless of the proposed level of small, DBE, MBE, WBE, VOSB and/or SDVOSB participation in the procurement. If the Good Faith and Outreach Effort documentation is not submitted with the bid response, the bid may be rejected.**

#### OUTREACH EFFORTS EVALUATION

Outreach efforts demonstrated by the bidder or respondent will be evaluated on a pass/fail basis.



N/A Hach Company is a sole source manufacturing company that does not subcontract.

## ATTACHMENT A – SMALL AND DISADVANTAGED, MINORITY-, WOMEN-, AND VETERAN-OWNED BUSINESS OUTREACH PLAN

Proposer Name:	<u>N/A</u>	Date:	<u></u>
Project Name:	<u></u>	Project Number:	<u></u>
Contact Name:	<u></u>	Telephone:	<u></u>
Email:	<u></u>		

The mission of the Minority Business Enterprise Program is to facilitate the full participation of disadvantaged businesses, minority-, women-, veteran-, and service-disabled veteran-owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long -term economic viability of Lexington-Fayette Urban County Government.

To that end, small and disadvantaged businesses, including minority-, woman-, veteran-, and service-disabled veteran-owned businesses, must have an equal opportunity to be utilized in the performance of contracts with public funds spent from certain discretionary agreements. By submitting its offer, Bidder/Proposer certifies that it has taken, and if there are further opportunities will take, reasonable steps to ensure that small and disadvantaged businesses, including minority-, woman-, veteran-, and service-disabled veteran-owned businesses, are provided an equal opportunity to compete for and participate in the performance of any subcontracts resulting from this procurement.

The information submitted in response to this clause will not be considered in any scored evaluation. Failure to submit this form may cause the bid or proposal to be rejected.

**Is the Bidder/ Proposer a certified firm?** Yes ☐ No ☐

If yes, indicate all certification type(s):

DBE ☐

MBE ☐

WBE ☐

SBE ☐

VOSB/SDVOSB ☐

and supply a copy of the certificate and/or certification letter if not currently listed on the city's Minority Business Enterprise Program's (MBEP) certified list.

**1. Include a list of firms that Bidder/ Proposer has had a contractual relationship with within the last two years that are minority-owned, woman-owned, veteran-owned or small businesses, regardless of their certification status.**

 Click or tap here to enter text. 

**2. Does Bidder/Proposer foresee any subcontracting opportunities for this procurement?**

Yes ☐ No ☐

If no, please explain why in the field below. Do not complete the rest of this form and submit this first page with your bid and/or proposal.  Click or tap here to enter text.)

If yes, please complete the following pages and submit all pages with your bid and/or proposal.

**Describe the steps Bidder/Proposer took to solicit small and disadvantaged businesses, including MBEs, WBEs, VOSBs, and SDVOSBs, for subcontracting opportunities for this procurement.**

**3. Check the good faith and outreach efforts the Bidder/Proposer used to encourage the participation of small and disadvantaged businesses including, MBEs, WBEs, VOSBs and SDVOSBs:**

- ☐ Bidder placed advertisements in search of prospective small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs for the solicitation.
- ☐ Bidder attended LFUCG Procurement Economic Inclusion Outreach event(s) within the past year.
- ☐ Bidder attended pre-bid and/or pre-proposal meetings for this solicitation.
- ☐ Bidder sponsored an Economic Inclusion Outreach event.
- ☐ Bidder requested a list of certified small, DBE, MBE, WBE, VOSB and/or SDVOSB subcontractors or suppliers from LFUCG.
- ☐ Bidder contacted organizations that work with small, DBE, MBE, WBE, VOSB and/or SDVOSB companies.
- ☐ Bidder sent written notices to certified small, DBE, MBE, WBE, VOSB and SDVOSB businesses.
- ☐ Bidder followed up to initial solicitations with interested small, DBE, MBE, WBE, VOSB and/or SDVOSB.
- ☐ Bidder provided small, DBE, MBE, WBE, VOSB and/or SDVOSB businesses interested in performing the solicited work with prompt access to the plans, specifications, scope of work, and requirements of the solicitation.
- ☐ Bidder made efforts to segment portions of the work to be performed by small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, including dividing sub-bid/partnership opportunities into economically feasible units/parcels, to facilitate participation.

- ☐ Bidder negotiated in good faith with interested small, DBE, MBE, WBE, VOSB and/or SDVOSB businesses.
- ☐ Bidder provided adequate rationale for rejecting any small business', DBEs, MBEs, WBEs, VOSBs or SDVOSBs for lack of qualifications.
- ☐ Bidder offered assistance in obtaining bonding, insurance, financial, equipment, or other resources to small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, in an effort to assist them in meeting project requirements.
- ☐ Bidder made efforts to expand the search for small businesses, DBEs MBEs, WBEs, VOSBs and/or SDVOSBs beyond the usual geographic boundaries.
- ☐ Bidder made other reasonable efforts to include small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs participation.

**4. Bidder/Proposer must include documentation, including the date each effort was made, the medium through which each effort was made, and the outcome of each effort with this form, regardless of the level of small, DBE, MBE, WBE, VOSB and/or SDVOSB participation. Examples of required documentation include copies of email communications, copies of newspaper advertisements, or copies of quotations received from interested small businesses, DBEs, MBEs, WBEs, VOSBs or SDVOSBs.**

 Click or tap here to enter text. 

**For detailed information regarding outreach efforts that satisfy the MBE Program's requirements, please see "Documentation Required for Good Faith Efforts and Outreach Plans" page.**

**Note: The Bidder/Proposer must be willing to report the identity of each subcontractor and the value of each subcontract to MBEP if awarded a contract from this procurement.**

**Failure to submit the documentation requested may be cause for rejection of the bid. Bidders may include any other documentation deemed relevant to this requirement, which is subject to review by the MBE Liaison. Documentation of Good Faith and Outreach Efforts must be submitted with the bid, regardless of the proposed level of SBEs, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs participation in the procurement. If the Good Faith and Outreach Effort Form and associated documentation is not submitted with the bid response, the bid may be rejected.**

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

N/A

---

**Company**

---

**Company Representative**

---

**Date**

---

**Title**

4870-1925-6809, v. 1

N/A Hach Company is a sole source manufacturing company that does not subcontract.

**UNIT PRICE CONTRACT  
BID SPECIFICATIONS  
FOR  
LUMINESCENT DISSOLVED OXYGEN ANALYZER  
WITH DIGITAL CONTROLLER FOR DIGITAL SENSORS**

**PART 1      GENERAL**

**1.1      SCOPE**

The successful bidder will provide a two (2) year unit price contract, with two (2) one (1) year renewal(s), for luminescent dissolved oxygen (LDO) analyzers with the digital controllers for digital sensors and all related wire and mounting assemblies, that is at a minimum, equal to the HACH LDO Probe and sc200 Controller.

The Lexington-Fayette Urban County Government anticipates equipment purchased from this contract will be for the purpose of new installations due to process change(s) and/or replacement of existing equipment as necessary due to end of serviceable life expectancy and/or other routine service and/or maintenance needs. There is no guarantee on the quantity of individual specific components that will be purchased during the duration of the unit price contract.

**1.2      SUBMITTALS**

- A. Manufacturers data and specifications of the Luminescent Dissolved Oxygen Sensor and Controller.
- B. Copy of the manufacturer's equipment warranty detailing the duration of the warranty and all limitations to the warranty.
- D. A copy of this specification with each paragraph check marked to show specification compliance or marked to show deviations. All exceptions should be clearly noted.

**1.3      MEASUREMENT PROCEDURES**

- A. The method of measurement will be with a probe using luminescent sensor technology.

Specification Compliant	
Yes	No
✓	

**1.4      ALTERNATES**

- A. Other methods of dissolved oxygen measurement, such as probes that use a selective membrane or those that use electrolytes, **are not acceptable**.

**1.5      SYSTEM DESCRIPTION**

- A. Performance Requirements
  - 1. Measurement range: 0.00 to 20 mg/L
  - 2. Accuracy: ± 0.2 percent of span
  - 3. Resolution: 0.01 mg/L

Specification Compliant	
Yes	No
✓	

4. Repeatability:  $\pm 0.1$  ppm
5. Sensitivity:  $\pm 0.05$  percent of span
6. Response time: 90 percent in less than 40 seconds and 95 percent in less than 60 seconds at 20°C

## 1.6 CERTIFICATIONS

- | Specification Compliant |    |
|-------------------------|----|
| Yes                     | No |
|                         | ✓  |
- A. EMI/RFI conformance exceeds U.S. and meets European standards for conducted and radiated emissions and immunity.
  - B. Certified CE compliant for applications as specified by EN 50081-1 for emissions and EN 50082-2 for immunity.
  - C. General Purpose: CSA/CSANRTL and FM
  - D. Meet EPA CFR 136

## 1.7 ENVIRONMENTAL REQUIREMENTS

- | Specification Compliant |    |
|-------------------------|----|
| Yes                     | No |
|                         | ✓  |
- A. Operational Criteria
    1. Operating temperature:
      - a. Probe: 0 to 50 degrees C
      - b. Controller: -20 to 60 degrees C
    2. Relative humidity: 95 percent, non-condensing
    3. Immersion depth: 15 meters, maximum
    4. Immersion pressure: 1050 kPa, maximum 345 kPa (50 PSI)
    5. Distance, analyzer to sensor: 1000 meters, maximum

## 1.7 WARRANTY

- | Specification Compliant |    |
|-------------------------|----|
| Yes                     | No |
| ✓                       |    |
- A. The probe includes a three-year warranty from the date of shipment.
  - B. The sensor cap includes a one-year warranty from the date of shipment.
  - C. The controller includes a one-year warranty from the date of shipment.

## 1.8 MAINTENANCE SERVICE

- | Specification Compliant |    |
|-------------------------|----|
| Yes                     | No |
| ✓                       |    |
- A. Scheduled maintenance:
    1. Sensor cleaning: 90 days or depending on conditions
    2. Sensor and sensor cap inspection: 90 days
    3. Sensor cap replacement: annually
    4. Calibration: per regulatory agency schedule
  - B. Unscheduled maintenance
    1. Replace fuse
    2. Clean instrument enclosure

## **PART 2      PRODUCTS**

### **2.1      MANUFACTURERS**

The recommended LDO analyzer and controller must at a minimum, equal the HACH LDO Probe and sc200 Controller.

Specification Compliant	
Yes	No
✓	

### **2.2      MANUFACTURED UNIT**

- A. The LDO probe consists of continuous-reading probe, replaceable sensor cap, and 10-meter integral cable.
- B. The sc200 controller is microprocessor-based and is housed in a NEMA 4X enclosure, rated IP66.

Specification Compliant	
Yes	No
✓	

**\*\*The sc200 is obsolete and the sc4500 is the direct replacement**

### **2.3      EQUIPMENT**

- A. The sensor is made of polybutyl methacrolate.
- B. The probe is made of foamed Noryl® and 316 stainless steel.
- C. The probe is entirely corrosion-resistant and fully immersible.
- D. The probe does not require sample conditioning or electrolyte solutions.
- E. The probe interface to the controller is MODBUS®.
- F. The operation of the probe is not affected by H<sub>2</sub>S, pH, K<sup>+1</sup>, Na<sup>+1</sup>, Mg<sup>+2</sup>, Ca<sup>+2</sup>, NH<sub>4</sub><sup>+1</sup>, Al<sup>+3</sup>, Pb<sup>+2</sup>, Cd<sup>+2</sup>, Zn<sup>+2</sup>, Cr (total), Fe<sup>+2</sup>, Fe<sup>+3</sup>, Mn<sup>+2</sup>, Cu<sup>+2</sup>, Mi<sup>+2</sup>, Co<sup>+2</sup>, CN<sup>-1</sup>, NO<sub>3</sub><sup>-1</sup>, SO<sub>4</sub><sup>-2</sup>, S<sup>-2</sup>, PO<sub>4</sub><sup>+3</sup>, Cl<sup>-1</sup>, anion active tensides, crude oils, or Cl<sub>2</sub><sup>-1</sup>.
- G. The sc200 operates using 100 or 230 volt, 50/60 Hz power.
- H. The sc200 displays dissolved oxygen measurement, temperature, and menu-driven operation system.
- I. The sc200 is equipped with temperature compensation.
- J. The sc200 can support up to two probes.
- K. The sc200 has a data logger with RS485 capability.
- L. Calibration methods:
1. Sample calibration: Sample is compared to a standard instrument or the Winkler Titration method.
  2. Air calibration: One point, 100 percent water-saturated air.
- M. Four (4) SPDT relays, user-configurable contacts rated 100 to 230 Vac, 5 Amp resistive maximum.
- N. Two analog 4-20 mA outputs and/or optional selectable digital I/O, maximum impedance 500 Ohms.
- O. Alarms
1. Low alarm point
  2. Low alarm point deadband
  3. High alarm point
  4. High alarm point deadband
  5. Off delay
  6. On delay
- P. Controls
1. High/low phasing

Specification Compliant	
Yes	No
	✓

**\*The SC4500 has 2 relays**

2. Setpoint
  3. Deadband
  4. Overfeed timer
  5. Off delay
  6. On delay
- Q. Communication
1. RS-485 (MODBUS): Advanced communications/networking with PLC or SCADA system directly from analyzer.
- R. All user settings of the sc200 are retained indefinitely in memory (non-volatile, EEPROM).

## 2.4 COMPONENTS

- A. Standard equipment:

1. Analyzer
2. Probe
3. Manual

- B. Dimensions

1. Probe
  - a. Diameter: 60 mm (2.4 in.)
  - b. Length: 290 mm (11.5 in.)
2. Controller
  - a. 1/2 DIN
  - b. Height: 144 mm (5.7 in.)
  - c. Width: 144 mm (5.7 in.)
  - d. Depth: 181 mm (5.9 in.)

\* Please see attached data sheet for dimensions of SC4500, replacement for SC200.

- C. Weight

1. Probe: 3 pounds, 2 ounces (1.4 kg)
2. Controller: 3.75 pounds (1.6 kg)

- D. Sensor cable: 32 foot, integral

Specification Compliant	
Yes	No
	✓

## 2.5 ACCESSORIES

- A. Replacement sensor
- B. Sun shield
- C. Junction box for cable extension
- D. Extension cable
- E. Pole mount kit
- F. Ball float mount kit
- G. Air blast cleaning system

Specification Compliant	
Yes	No
✓	

## 2.6 PRODUCT DATA

- A. The following information shall be provided:
1. 2 copies of applicable operation and maintenance information
  2. Copy of warranty stated in the bid.

Specification Compliant	
Yes	No
✓	



## **PART 3      TRAINING**

### **3.1 TRAINING**

At the discretion of Division of Water Quality a minimum one (1) day of field service may be necessary. If deemed necessary the field service representative may be required to be on site to supervise installation of one of the LDO sensors, educate personnel in programming the analyzer and to start up the equipment.

***Please write in the unit price bid for the item listed below:***

<u>ITEM DESCRIPTION</u>	<u>LFUCG Commodity Number</u>	<u>Manufacturer/Model</u> (Price for one Model Type per specifications)	<u>UNIT PRICE</u>
(1) day of field service training by service representative		59P and start up travel	\$3,762.00

## **PART 4      GENERAL**

### **4.1      Section includes:**

- A. A modular single or dual channel controller that works with digital sensors and analog sensor modules.

Specification Compliant	
Yes	No
✓	

### **4.2      Measurement Procedures**

- A. Microprocessor-based sensor controller.  
B. Change digital sensors connected to the controller by unplugging and plugging sensors as necessary.  
C. Change analog sensors modules connected to the controller by unplugging and plugging analog sensor modules as necessary.

Specification Compliant	
Yes	No
✓	

### **4.3      Alternates**

- A. Parameter-specific controllers that **do not allow** changing parameter configurations in the field are **unacceptable**.

Specification Compliant	
Yes	No
✓	

#### 4.4 System Description

- A. Performance Requirements
- B. DO sensor module
- C. Measurement range:
  - 1. 0 to 20 ppm
  - 2. 200% saturation
- D. Repeatability:  $\pm 0.05\%$  of range
- E. Response time: 0.5 s
- F. Temperature range: 0 to 50 °C
  - 1. 20 to 200,000  $\mu\text{S}/\text{cm}$ ,  $K=1$ :  $\pm 1\%$  of reading
- G. Response time: 0.5 s
- H. Temperature range: -20 to 50 °C

Specification Compliant	
Yes	No
✓	

#### 4.5 Certifications

- A. EMC: Certified CE compliant for conducted and radiated emissions (EN 50081-2) and immunity (EN 61000-6-2).
- B. General purpose: UL through ETL.

Specification Compliant	
Yes	No
	✓

#### 4.6 Environmental Requirements

- A. Operational Criteria
  - 1. Temperature: -4.0 to 140.0 °F (-20.0 to 60.0 °C)
  - 2. Relative humidity: 0 to 95%, non-condensing

Specification Compliant	
Yes	No
✓	

#### 4.7 Warranty

- A. Warranted for two years from date of shipment from manufacturers defects.

**\*\*1 year warranty on SC4500 controller**

Specification Compliant	
Yes	No
	✓

#### 4.8 Maintenance Service

- A. Clean controller keypad
- B. Calibrate mA output signals

Specification Compliant	
Yes	No
✓	

## **PART 5      PRODUCTS**

### **5.1      Manufacturer**

- A. Hach Company, Loveland, CO
- B. Hach model sc200 Digital Controller or equal

Specification Compliant	
Yes	No
✓	

### **5.2      Manufactured Unit**

- A. The controller provides connections for up to 29 Hach digital and analog sensor families for 15 different parameters.
- B. The controller is available with the following power requirements:
  - 1. AC powered: 100 to 240 Vac  $\pm 10\%$ , 50/60 Hz; 15 W with 7 W sensor/network card load, 37 W with 25 W sensor/network card load.
- D. The controller uses a menu-driven operation system.
- E. The controller display is graphic dot matrix LCD with LED backlighting.
- F. The controller is equipped with a real-time clock.
- G. The controller is equipped with two security levels.
- H. Four electromechanical, UL rated, SPDT relays (Form C) are provided for user-configurable contacts rated 100 to 230 Vac, 5 Amp at 30 Vdc resistive maximum.
  - a. The following can be programmed:
    - 1. Alarm
    - 2. Warning
    - 3. Timer/scheduled cleaning
    - 4. Feeder control
    - 5. Event control
    - 6. Pulse width modulation
    - 7. Frequency modulation
  - b. The following can be assigned:
    - 1. Primary value measurement I
    - 2. Secondary value measurement I
    - 3. 3rd value measurement I
    - 4. 4th value measurement I
    - 5. Primary value Measurement II
    - 6. Secondary value measurement II
    - 7. 3rd value measurement II
    - 8. 4th value measurement II
    - 9. Real time clock
    - 10. Calculated values
- I. Two analog 0/4-20 mA outputs are provided with a maximum impedance of 500 ohms.
  - a. The following can be programmed:
    - 1. Alarms:
      - i. Low alarm point
      - ii. Low alarm point deadband
      - iii. High alarm point
      - iv. High alarm point deadband
      - v. Off delay
      - vi. On delay

Specification Compliant	
Yes	No
	✓

**\*\* The SC4500  
has 2 relays**

2. Controls:
  - i. Linear
  - i. Bi-linear
  - ii. Logarithmic
  - iii. PID
- b. The following can be assigned:
  1. Primary value measurement I
  2. Secondary value measurement I
  3. 3rd value measurement I
  4. 4th value measurement I
  5. Primary value measurement II
  6. Secondary value measurement II
  7. 3rd value measurement II
  8. 4th value measurement II
  9. Calculated values
- J. All user settings of the controller are retained for 10 years in flash memory.
- K. The controller is equipped with a system check for:
  1. Power up test (monitoring and shutdown)
  2. Total power draw
  3. Memory devices
  4. Temperature mother board

### 5.3 Equipment

- A. Materials
  1. Housing: polycarbonate, aluminum (powder coated), and stainless steel
  2. Rating: NEMA 4X enclosure, rated IP66
- B. Conduit openings: 0.5 in. NPT

Specification Compliant	
Yes	No
✓	

### 5.4 Components

- A. Standard equipment
  1. Controller
  2. Mounting hardware for wall, pipe, and panel mounting
- B. Dimensions: 1/2 DIN (144 x 144 x 180 mm (5.7 x 5.7 x 7.1 in.))
- C. Weight: 1.6 kg (3.5 lbs.)

Specification Compliant	
Yes	No
	✓

### 5.5 Accessories

- A. Weather protection shield
- B. Sun screen
- C. RS-485 MODBUS module
- D. PROFIBUS DP module
- E. Additional mA output module
- F. 4-20 Ma input module
- G. SD card reader (USB) for connection to PC
- H. 4 GB SD Card
- I. DO Module

Specification Compliant	
Yes	No
✓	

This has all communication/outputs available for selection. The combination list of everything is not available for the SC4500.

## **PART 6 EXECUTION**

### **6.1 Preparation**

- A. The sensor may need to be installed with additional accessories depending on its application.
1. Mount on rail, panel, pipe, or wall.
  2. Sensor to analyzer distance: 300 m (985 ft.)

Specification Compliant	
Yes	No
✓	

### **6.2 Installation**

- A. DWQ personnel will install the analyzer in strict accordance with the manufacturer's instructions and recommendation.
- B. Manufacturer's representative will include a half-day of start-up service by a factory-trained technician, if requested.
1. DWQ staff will schedule a date and time for start-up.
  2. DWQ may require the following people to be present during the start-up procedure.
  3. Hach Company factory trained representative

Specification Compliant	
Yes	No
✓	

***Please write in the unit price bid for the item listed below:***

<b>ITEM DESCRIPTION</b>	<b>LFUCG Commodity Number</b>	<b>Manufacturer/Model (Price for one Model Type per Specifications )</b>	<b>UNIT PRICE</b>
Controller for Measuring Dissolved Oxygen 0-20 ppm Hach part # LXV404.99.00552		part# listed is obsolete, offering the basic SC4500 direct replacement LXV525.99A11551, If digital communication is required additional charges will apply.	\$2754.38
Weather Sun Shield for Controller Hach part # 9220600		part # listed is obsolete, offering the part # LXZ524.99.00005 SC4500 UV Protection Screen with Sunroof	\$385.40
UV Protection Screen for Controller Hach part # 8809200		part # listed is obsolete, offering the part# LXZ524.99.00004	\$194.34
SD Card Reader (USB) for connection to PC Hach part # 9218200		OBSOLETE, no replacement because the sc4500 does not require a SD card.	
4 GB SD Card Hach part # 9218100		Part # is obsolete. We are offering the USB stick part #LXZ524.99.00017	\$86.10
D.O. Module for controller Hach part # 9012900		Obsolete and no replacement options	
4-20 mA Input Module Hach part # 9012800		Part # is obsolete, offering the replacement part # LXZ524.97.00042 for the SC4500.	\$666.66

Modbus Network Module Hach part # 9013200		Part # is obsolete, offering th Modbus TCP/IP Upgrade Kit for sc4500 LXZ525.99.C0005	\$464.12
Profibus Network Module Hach part # 9173900		Part # is obsolete, offering Ethernet IO/ Profinet upgrade kit LXZ525.99.C0001	\$848.70
4-20 mA output Module Hach part # 9334600		Part # is obsolete, offering the part # mA Output LXZ525.99.D0002 for the SC4500	\$177.94
Power Cord with strain relief for controller Hach part # 9202900		Part # is obsolete, offering the part # LXZ525.99.B0002 for the SC4500	\$72.36
LDO probe with 32.8 ft integral cable Hach part # 5790000		The part# referenced is obsolete, offering the direct replacement part # for the LDO model 2 9020000 - also listed below	\$2655.16
Handrail Pole Mount kit for the LDO probes Hach part # 5794400		The part # referenced is obsolete, offering the LDO model 2 rail mount part # 9253000- aslo listed below	\$647.80
Ball Float Mount Kit for the LDO Probes Hach part # 5794300		The part # listed is obsolete, offering the LDO model 2 float mount kit part # 9253100 also listed below.	\$901.18
Digital Termination box for cable extensions Hach part # 5867000		Hach termination box part #5867000	\$309.14
25 foot (7.7 meters) extension cable Hach part # 5796000		Hach 25 ft extension cable part #5796000	\$254.20
50 foot (15 meters) extension cable Hach part # 5796100		Hach 50 ft extension cable part #5796100	\$377.20
100 foot (31 meters) extension cable Hach part # 5796200		Hach 100 ft extension cable part#5796200	\$498.56
Air Blast Cleaning System Hach part # 6860001		The part # referenced is obsolete, offering the LDO model 2 air blast replacement parts #9253500 and 6860000	Component kit \$636.32 Airblast compressor \$2577.26
LDO Replacement sensor cap Hach part # 5791100		The part # referenced is for the LDO 1, offering the LDO 2 replacement cap part #9021100 also listed below	\$300.94
LDO Model 2 Probe Hach part #9020000		Hach LDO model 2 probe	\$2655.16
LDO Model 2 Sensor Cap Hach part #902110		LDO 2 replacement cap part #9021100	\$300.94
LDO Model 2 Pole Mount Kit Hach part #9253000		LDO model 2 rail mount part # 9253000	\$647.80
LDO Model 2 Ball Float Mount Hach part # 9253100		LDO model 2 float mount kit part # 9253100	\$901.18
LDO Model 2 Union Mount Hach part #9253100		Part # listed is typo for float mount, offering the union mount part #9257000	\$481.34

LDO Model 2 1" NPT flow cell Hach part #7300800		LDO model 2 flow cell part #7300800	\$642.06
Half day of on-site start up and training on an as needed basis		57P \$1695.00 Startup Travel \$373.00	\$2068.00
Full day of on-site start up and training on an as needed basis		59P \$3389.00 Startup Travel \$373.00	\$3762.00

Question should be directed through lonwave or to [brianm@lexingtonky.gov](mailto:brianm@lexingtonky.gov).

### 3. Hach Contract Addendum



**Contract Addendum to:**  
**IFB 16-2025 Luminescent Dissolved Oxygen Analyzer with**  
**Digital Controller for Digital Sensors**

**Parties:** Lexington-Fayette Urban County Government (Company)  
Hach Company ("Supplier")

**Date:** FEB 18 2025

**Recitals:** Customer and Supplier are entering into a contract for the purchase of Supplier's goods and/or services ("Goods" and/or "Services") related to the Project and, for convenience, are using Customer's standard contract forms ("Customer's Base Contract"). This Contract Addendum (the "Addendum") is intended to provide reasonable revisions to Customer's Base Contract to enable the parties to enter a contract for the purchase of Goods and /or Services related to the Project without prolonged or complex negotiations over terms and conditions. Accordingly, the parties incorporate this Addendum into the Customer's Base Contract and make it an integral part thereof, taking precedence over any contrary or related terms or conditions that may be contained therein, in any purchase orders, or in any other writings, addenda or exhibits constituting part of the agreement between the parties (collectively, the "Agreement").

**Revisions:** Notwithstanding anything to the contrary contained in the Agreement, the following provisions and rules of construction apply:

**1. Services.** The Services shall be limited to those services specifically described herein. For the avoidance of doubt, and without limitation, Supplier has no responsibility for the supervision or actions of Customer's employees or contractors or for non-Supplier chemicals or equipment and disclaims all liability and responsibility for any loss or damage that may be suffered as a result of such aspects or actions or any other aspects or actions not under Supplier's control.

**2. Indemnification.** Any and all indemnification obligations imposed upon Supplier are limited to the extent of those damages proportionately caused by Supplier's breach of the Agreement, negligence, wrongful conduct, or violations of law. In no case is Supplier liable for any damages caused by negligence, misuse or misapplication of goods by others. For non-government customers, Supplier's indemnification obligations are provided on the condition that Customer defends, indemnifies and holds harmless Supplier against any and all damages to the extent caused by misuse or misapplication of goods, negligence, wrongful conduct, or violations of law by Customer, its affiliates, or those employed by, controlled by or in privity with them, and Customer agrees to so defend and indemnify Supplier. Customer's workers' compensation immunity, if any, does not preclude or limit its indemnification obligations.

**3. Limitation on Liability.** THE TOTAL LIABILITY OF SUPPLIER AND ITS SUBSIDIARIES, AFFILIATES, EMPLOYEES, DIRECTORS, OFFICERS AND AGENTS ARISING OUT OF PERFORMANCE, NONPERFORMANCE, OR OBLIGATIONS IN CONNECTION WITH THE DESIGN, MANUFACTURE, SALE, DELIVERY, AND/OR USE OF GOODS AND/OR SERVICES IN NO CIRCUMSTANCE INCLUDES ANY LIQUIDATED, PENALTY, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, NOR EXCEED AN AMOUNT THAT IS UNREASONABLY DISPROPORTIONATE TO THE TOTAL AMOUNT OF COMPENSATION ACTUALLY PAID TO SUPPLIER UNDER THE AGREEMENT, EXCEPT ONLY IN THE CASE OF DAMAGES ARISING DUE TO SUPPLIER'S WILLFUL MISCONDUCT.

**4. Warranty.** Supplier warrants to Customer that each of the Goods conforms to its written warranty set forth in its user manual in effect on the date of purchase, or, if there is no express warranty therein, that each of the Goods will be free from defects in material and workmanship and will conform to the manufacturer's quoted specifications for twelve (12) months from delivery. Warranties do not extend to consumable items such as, without limitation, reagents, batteries, mercury cells, and light bulbs. Supplier warrants that it will perform all Services in accordance with its standard practices and that the Services will be free from defects in workmanship for a period of ninety (90) days from their date of performance. If Supplier breaches this warranty and the Customer notifies Supplier of such breach within 30 days of the end of the applicable warranty period, Supplier will, at its option, either replace or repair the nonconforming Goods, or re-perform any nonconforming Services, or refund the amounts paid by Customer to Supplier for the nonconforming Goods and/or Services. THIS IS THE EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY. SUPPLIER EXPRESSLY DISCLAIMS ANY REMEDIES OF "COVER" AND ANY WARRANTIES IMPLIED BY LAW, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

**5. Intellectual Property; Information Technology; Privacy.** Supplier retains all rights in and to any intellectual property

and confidential information created or procured by it or its representatives at any time, and Customer receives licenses to use such intellectual property and information only to the extent provided by implied license under applicable law. No Customer information technology requirements apply, except the extent such requirements specifically apply to equipment being sold to Customer. To help ensure mutual compliance with applicable privacy laws, Customer will not provide to or share with Company any personal data or personally identifiable information.

**6. Performance Guarantees.** All product warranties and guarantees shall only be enforceable if (a) all equipment is properly installed, inspected regularly and is in good working order, (b) all operations are consistent with Supplier recommendations, (c) operating conditions at the Customer site have not materially changed and remain within anticipated specifications, and (d) no reasonably unforeseeable circumstances exist or arise.

**7. Acceptance and Set-off.** Except to the extent agreed upon in writing by Supplier's CFO, all Goods and Services are deemed accepted upon delivery and early payment discounts do not apply. Any set-off rights in the Agreement notwithstanding, Customer bears the customary burden of proof with respect to any amounts invoiced by Supplier but not paid by the invoice due date. This revision does not adversely impact any of Customer's rights under Supplier's warranties.

**8. Funds Transfers.** Customer and Supplier both recognize that there is a risk of banking fraud when individuals impersonating a business demand payment under new banking or mailing instructions. To avoid this risk, Customer must verbally confirm any new or changed bank transfer or mailing instructions by calling Supplier and speaking with Supplier's accounts receivable contact before mailing or transferring any monies using the new instructions. Both parties agree that they will not institute mailing or bank transfer instruction changes and require immediate payment under the new instructions but will instead provide a ten (10) day grace period to verify any payment instruction changes before any new or outstanding payments are due using the new instructions.

**9. Payments.** All payments are due within 30 days of the invoice date, or on the activation date of any service partnership.


**10. Miscellaneous.** Except to the extent signed by a duly authorized representative of an affiliate of Supplier, the Agreement does not bind any affiliates of Supplier. Supplier is not subject to any audit rights in favor of the Customer, except for audit rights (under reasonable conditions) directly related to Supplier's compliance with laws and regulations (e.g., safety) which are directly applicable to Supplier's Goods and/or Services purchased under this Agreement. Supplier is not obligated to purchase or carry Professional Liability or E&O Insurance coverage, provide copies of Supplier's policies, or provide waivers of subrogation. Supplier may include Customer and their Affiliates as an Additional Insured party. Nothing in the Customer's Base Contract supersedes or nullifies this Addendum. Supplier's obligations under the Agreement will only be modified by written agreement of Supplier through the same duly authorized representative who signed this Addendum, or such person's duly authorized successor. Except as provided herein, neither party agrees to any contractual clause or provision, that waives such party's ordinary and standard rights, including, but not limited to, the right to retain party's own counsel and each party's right to determine facts and circumstances in the event of a dispute.

IN WITNESS WHEREOF, the Parties have caused this Addendum to be executed by their duly authorized representatives, intending thereby to be legally bound.

**CUSTOMER NAME**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**Hach:**

By:  \_\_\_\_\_  
Name: Stephanie Herman  
Title: Project Specialist  
Date: 2/18/2025

## 4. Manufacturer Qualifications



# Manufacturer Qualifications

## **We promise to help you Be Right.®**

Hach's mission is to ensure water quality for people around the world. We make water analysis better—faster, simpler, greener and more informative—via unsurpassed customer partnerships, the most knowledgeable experts and reliable, easy-to-use solutions.

Hach Company, owned by Veralto Corporation (VLTO), is a global source for water analytical systems and solutions. With a promise to simplify water quality analysis and deliver accurate, timely results, Hach is the premier U.S.-based water analysis company.

Hach provides a wide range of single-parameter test kits, advanced laboratory instruments, and state-of-the-art on-line monitoring systems. Each system includes reliable monitoring instrumentation, pre-measured reagents, proven methods, illustrated procedures, and technical support for the life of the product. Hach methods are innovative and are developed with customers' needs in mind.

# The Capacity to Perform: An Overview of Hach

## The History of Hach

Hach methods are innovative and developed with customers' needs in mind.

We provide a wide range of single-parameter test kits, advanced laboratory instruments, and state-of-the-art on-line monitoring systems. Each system includes reliable monitoring instrumentation, pre-measured reagents, proven methods, illustrated procedures, and technical support for the life of the product.

Since our founding in 1933, we've led the industry in developing innovative solutions to help you manage your water more efficiently and accurately. Today, Hach products can be found across the entire globe and serve industries ranging from municipal drinking and wastewater to food, beverage and power, and every other sector that touches water.

More than 100,000 municipalities, industries, governmental agencies, researchers, and consulting engineers worldwide have benefited from our professional services and environmental products. Hach maintains a professional staff of 1,300, each devoted to ensuring the success of every project—providing water quality, flow monitoring, and data management services to all Hach customers.

### From Our Roots Comes Our Success

Clifford and Kathryn Hach of Ames, Iowa had a vision of bringing analytical chemistry out of the laboratory and placing it in the hands of the workplace and the general public. This vision came true in 1947 when Hach Company came to life after the couple developed a simplified titration method for measuring water hardness.

Year after year, a significant portion of Hach's business comes from repeat customers. We believe the most convincing evidence of the

quality, integrity, and value of our equipment and service is the confidence and loyalty of our repeat customers.

## The Hach Brand

Hach Company, owned by Veralto Corporation (VLTO), is a global source for water analytical systems and solutions. With a promise to simplify water quality analysis and deliver accurate, timely results, Hach is the premier U.S.-based water analysis company.

### Continuous Improvement in the Veralto Enterprise System

Quality is built in and evaluated at every stage of development and manufacturing at Hach.

Known as a world class manufacturer, we systematically foster best practices for performance that continually redefine excellence. This allows us to meet the design and manufacturing challenges of today, while anticipating and innovating for tomorrow.

Hach's system for continuous improvement is rooted in the Veralto Enterprise System (VES).

Based on principles of lean manufacturing, VES has reinforced Veralto's industry leadership since its inception in the mid-1980's.

***"The water on this planet  
is all we've got. It needs to  
be cared for."***

— Kitty Hach-Darrow (1922-2020)







The Veralto Enterprise System evolved from a collection of manufacturing improvement tools into a philosophy, set of values, and series of management processes that collectively define who we are and how we do what we do.

Fueled by Veralto's core values, the VES engine drives Hach through a neverending cycle of change and improvement. Exceptional people develop outstanding plans and execute them using world-class tools to construct sustainable processes, resulting in superior performance.

Guiding all efforts is a simple philosophy rooted in four customer-facing priorities: **Quality, Delivery, Cost, and Innovation.**

### The Hach Family

Some of the best leaders in water quality have joined the Hach family over the last 80 years. These brands have helped Hach provide best-in-class products, leverage industry leading experts, and provide local support to customers around the world.



## Sustainability at Hach

As Hach's® water analysis solutions and expertise have grown, so has our global footprint, with operations at 43 sites in more than a dozen countries. Hach's Sustainability Team works across sites and functions with the goal of achieving exceptional levels of corporate responsibility and sustainability. Our commitment to research and development and state-of-the-art manufacturing keeps us at the forefront of technology. We aggressively and continuously eliminate waste in every facet of our business processes.

Hach has manufactured instrumentation for over sixty years. Our quality considerations extend to our environmental impact.

In 2021, Hach earned a Gold Medal Sustainability Rating by EcoVadis, the leading platform for environmental, social, and ethical performance ratings for global supply chains.



The rating places Hach among the top 5% of companies in Hach's business sector as rated by EcoVadis, which monitors sustainability across 200 industries and 160 countries on behalf of 75,000 companies. The complex rating process assesses a range of Corporate Social Responsibility (CSR) initiatives, including: environmental impact, labor and human rights, sustainable procurement and ethics.

Every day, Hach acts upon our mission of ensuring water quality for people around the world. Learn more at:

<https://www.hach.com/global-footprint>.



# Worldwide Sales & Service: The Hach Experience

Hach customers around the globe can be confident that their unique requirements are understood and supported by people who are within easy reach.

We have established a strong local presence in each of the markets we serve domestically and internationally. Our global network of authorized distributors stock and support Hach products in countries worldwide.

Our domestic direct sales, direct service team and international distributors are factory-trained to:

- Help customers select the appropriate Hach products
- Provide local technical support and service
- Ensure fresh reagents and consumables are available to support our customers' operations

Many international distributors provide programs like our domestic service programs by offering instrument repair, preventative maintenance and service programs.

## **Proven, Patented Equipment**

Our unique, patented designs are a result of years of extensive research and development. Originating from the "voice of our customers" and refined using focus groups, Hach equipment has been proven by customers and industry professionals worldwide.

## **Experienced Project Teams**

Hach's project teams are comprised of multi-disciplined individuals who represent the best in their fields. This enables Hach to provide customers with technical expertise from application to installation through operation, maintenance and data processing. Their experience ensures that we deliver the most innovative and effective technology with value-added services.

## **Secure Financial Resources**

In 2023, Hach became a wholly owned subsidiary of Veralto Corporation, which brings together many companies working in the Process/Environmental Controls industries.

Veralto is a global leader that designs, manufactures, and markets innovative products, services and technologies with strong brand names and significant market positions. Driven by strong core values and a foundation provided by the Veralto Enterprise, Veralto's associates are pursuing a focused strategy aimed at creating enduring positive impact for the world .

Hach and its related companies in the Veralto Water Quality Group have emerged as the global market-share leader in the multi-billion dollar water analytical instrumentation industry, holding number one or number two positions in each of our key markets. Our past was indelibly shaped as part of global science and technology innovator Danaher, but our future is uniquely our own.

**Veralto Corporation is traded on  
the New York Stock Exchange  
(symbol VLTO) with annual sales  
over \$5 billion.**

Learn more at  
[www.veralto.com](http://www.veralto.com).



### **On-Time Delivery**

To achieve our goal of delivering quality products on time and at competitive prices, Hach maintains a program of investing in the latest, state-of-the-art production systems. Every facet of Hach's operations, from quotation to production scheduling to quality control to shipping, is guided by a robust and networked management system.

### **State-of-the-Art Facilities**

Our Loveland, Colorado (USA) facility houses Hach's world headquarters, research and development laboratories, instrument manufacturing operations, customer service center and the Hach Technical Training Center.

Activities at our Ames, Iowa facility include manufacturing and packaging chemical reagents and test kits, and filling customer orders from our central warehouse.

Advanced electronic information systems help us pick, pack, and ship hundreds of orders every day for our customers throughout the world. Hach also operates modern, efficient facilities in Grants Pass, Oregon; Romeoville, Illinois; Lyon, France; Berlin, Germany; Barcelona, Spain; Geneva, Switzerland; and Shilu, China.





# Hach Services: Expert Answers, Outstanding Support

Hach's robust support teams have expansive expertise to help customers from purchasing to implementation to maintenance. We also offer an array of services and programs for customers to ensure they stay up-to-date and in-the-know.

## Hach Training

Hach Training provides digital, virtual and in-person training across water quality parameters, applications and products.

### Timely Training

This is water analysis training for today – and tomorrow. Get insight into emerging trends and new technology, whenever it works for you.

### Learn Your Way

Attend a virtual course, access an ondemand training or request a customized training. Lessons are built to span parameters, applications and specific needs of municipal and industrial water professionals.

### Global Expertise

Our instructors combine their expertise with Hach's storied legacy as a water analysis leader. You'll learn with people who understand water and your goals.

## Customer Service

The Hach sales support team addresses customer questions via phone or through Hach's innovative "Live Help" feature on [www.hach.com](http://www.hach.com). These accessible agents give customers a rapid response to their laboratory, process and basic technical questions.

## Technical Support

Additionally, Hach has a technical support team available for more complex issues and customer questions. Hach is known for its unrivaled support with customer service and technical support specialists dedicated to providing expertise and solutions to meet customers' needs.

## Service Repair

Two Factory Service centers in the US provide expert support, repair, calibration, and preventative maintenance of your Hach equipment.

## Expert Direct Field Service

Hach's expert field technicians and remote field depots support the domestic US to provide customers with on-site repair, preventative maintenance, and calibration services.

## Rental and Loaner Returns

Hach service can provide rental and loaner instruments for select models.



# Hach Product Service: Plans to Protect Your Investment and Peace of Mind

With Hach Service Plans you have a global partner who understands the customers needs and cares about delivering timely, high-quality service you can trust.

Our Technical Support, Field Service, and Central Service Teams work together with unique expertise to help maximize instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk. All at a fixed annual cost that eliminates unplanned expenses.

## The Plus Program

Hach's Service Plus Partnership Programs offer flexible, comprehensive services that will ultimately help reduce maintenance costs while customers ensure they meet regulatory requirements with instrumentation operating at peak performance.

## Establish Performance

Upfront service considerations from Hach ensure our customers start with optimal performance and maintain it all throughout the lifetime of our products.

## Commissioning

After investing in a new system, it's important that our customers get off to a good start with data you can trust and confidence in your ability to operate and maintain the equipment. Our commissioning services assure that your new system is calibrated and delivering accurate data, and that you are trained to keep the system running smoothly between service visits.

## Calibration/ Certification

We know how important instrument calibration and certification is in maintaining regulatory compliance. As part of every service we provide, we verify that the instrument is performing to our

factory specifications and provide the documentation you need to minimize compliance risk.

## Extend Performance

### Routine Maintenance

Every analytical instrument requires some level of routine maintenance to assure accuracy and minimize downtime.

With a Hach Service Plan, we ease the burden by helping you manage your maintenance schedule according to the specific needs of each instrument. You can be confident that the highest quality parts are being used and the job gets done right.

### Repair

We understand the impact on your process and your operations when your equipment goes down. You need a service partner who has the resources necessary to get you back up and running fast.

With repair coverage through a Hach Service Plan, you get priority service from skilled professionals with the knowledge, tools, and parts readily available to restore your equipment to proper operation as quickly as possible.



## Elevate Performance

### Advanced Maintenance

With ease of use and simpler routine maintenance comes behind-the-scenes complexity that requires special tools and skills that Hach Service is uniquely qualified to provide. Our advanced maintenance services, including in-depth systems diagnostics, detect and prevent potential issues that can degrade performance or reduce the life of the instrument.

### Remote Monitoring

When you add remote monitoring services, we can help you get the most out of your investment. Our Specialists will help identify opportunities for optimization and maximize uptime by identifying potential issues before they result in unplanned maintenance events.



# Specialized Products: Innovative Technologies for Your Process

As global demand for water grows, Hach technologies will help municipal water treatment plants and industrial manufacturing facilities ensure quality in their processes, wherever they are located.

Hach has over 800 patents across 200 patent families, so we can offer the greatest breadth and highest quality of water analysis products on the market. Our chemistries and instruments are specifically designed to go together, providing precise, reliable measurements that maximize performance and ease-of-use.

## On-line/Process Instrumentation

Accurate, continuous control is the deciding factor in quality production and cost-effective operations. Hach online analyzers are designed to provide the continuous, unmonitored operation required in full-time processes, and to offer very low maintenance requirements.

Many of our online instruments are designed in conjunction with Hach-formulated reagents to further ensure trouble-free operation and optimum response to changes in the sample stream.

Hach's family of digital controllers, combined with a complete portfolio of "plug-and-play" digital sensors are another of Hach's innovative solutions. The ability to use any combination of sensors with a single controller offers flexibility, cost savings, and enhanced communications while providing total data reliability.

## Distribution Monitoring

The initial step in knowing the health of your water distribution system is taking system vitals to establish a normal baseline at critical nodes, storage reservoirs, booster stations, pump stations, and other key monitoring

points. Hach manufactures a wide variety of top-of-the-line distribution monitoring systems and has innovative solutions to monitor source water to optimize chemical injections and protect the drinking water plant from contaminated raw water.

## Advanced Laboratory Analysis Systems

Hach laboratory instruments have uncompromising performance and outstanding value, providing the efficiency and ease-of-use that is the trademark of Hach products. Hach instruments speed routine testing and support the needs of advanced analysis programs.

### Spectrophotometers & Colorimeters

All Hach lab and portable spectrophotometric and colorimetric instruments are designed to simplify routine analytical tasks as much as possible. They feature preprogrammed methods with on-screen prompts that lead step-by-step through each procedure while providing accurate results.

### Turbidimeters

Turbidity is a critical water quality parameter in many applications, from drinking water to ultrapure processes. Thanks to decades of development leadership, Hach provides some of the most advanced field, laboratory, and process turbidimeters and particle counters in the world.



## Microbiology Products

Hach has been in the business of microbiological testing for over 20 years, with the goal of simplifying what can often prove to be a demanding area of analysis for many. All our microbiology testing products work as complete systems, featuring ready-to-use prepared or dehydrated media and reagents, illustrated procedures, instruments, apparatus, and labware. Our convenient, portable systems include everything needed for testing.

## Electrochemical Analysis

Hach's electrochemistry portfolio provides the right solution for your testing needs, backed by years of innovation and technical support. Whether you require a simple, dedicated pH meter and electrode or an advanced, expandable, multi-parameter system, Hach has your answer. No other supplier combines such a broad selection of products with the accuracy, ease-of-use, durability and flexibility demanded in the industry.

## Methods & Reagents

Hach methods are most often based on industry-accepted methods such as those in Standard Methods for the Examination of Water and Wastewater. Several methods are EPA compliant. By offering prepared reagents and simple, easy-to-follow procedures, Hach methods reduce the technical requirements of analysis and eliminate the chance of error in reagent preparation.

Hach reagents are formulated and prepared under strict quality control conditions at our Ames, Iowa, USA facility and in Berlin, Germany. Pre-packaged, unit-dose reagents are offered in sealed "powder pillows" or vial tests that ensure fresh, stable reagents for each test, and are specially made to work with our instruments as a complete system.

All Hach products are packaged for safe shipment and are provided with all required documents to ensure compliance with transportation regulations and safe handling at their destination.

For US customers who can forecast their reagent supply requirements (up to one year), Hach offers a Reagent Delivery Program (formerly known as the SIRR Plan). This program applies to all Hach chemical purchases including analyzer reagents, COD vials, Test 'n Tube™ and TNTplus® reagent sets, AccuVac® Ampules, buffers and standards, liquids and powders. By setting up an automatic schedule for the arrival of chemicals, the program eliminates the hassle and expense of last-minute shipments, minimizes storage costs and ensures a predictable, fresh supply of chemicals.



## Field Testing Equipment: Portable Labs & Test Kits

Hach portable water testing laboratories and test kits are based on proven, simplified Hach methods. The field-oriented labware are built with reliable instrumentation in the form of prepared reagents in sealed, single-test packaging. The kits come in a compartmentalized carrying case with step-by-step instructions.

## Hach Digital Solutions

Claros, the Water Intelligence System from Hach, helps water and wastewater professionals tackle common industry challenges through the use of innovative software and connected instrumentation. From highly efficient instrument management to automated process management modules, Claros ensures data accuracy, provides real-time data visibility even in remote locations, reduces cost and resource demand, and delivers process consistency to reduce compliance risk. With flexible and integrated state-of-the-art solutions, Claros is leading the evolution of modern water and wastewater management

As the leader in water quality analysis, Hach is ready to partner with you. Together, we can ensure the water quality you require.



## 5. LDO Data Sheet





# Dissolved Oxygen: Hach LDO sc Probe, Model 2

## Applications

- Wastewater
- Industrial Water
- Drinking Water



## Accurate process monitoring of dissolved oxygen in water for precise aeration control

### No Calibration Required

The Hach® LDO sc probe uses luminescent dissolved oxygen technology. Traditional DO probes require DO sensor calibration, which increase maintenance requirements.

### No Membranes to Replace

There is virtually no maintenance with Hach's breakthrough luminescent technology. There are no membranes to replace, no electrolyte solution to replenish, and no anode or cathode to clean.

### No Missed Cleaning Cycles

The Hach LDO sc probe is equipped with Prognosys, a predictive diagnostic system, that allows you to be proactive in your maintenance by alerting you to upcoming instrument issues. Know with confidence whether changes in your dissolved oxygen level measurements are due to changes

in your instrument or your water. To make sure routine cleaning cycles are never missed, the probe offers operators customizable diagnostic alert indicators, ensuring the probe can operate at its maximum performance level.

Customizable service indicators trigger a service message so that a cleaning cycle is never missed.

### No Drift

Cutting-edge 3D calibration procedure is conducted prior to shipping, the DO probe will not drift and is more accurate than ever before.

### No Complications

Our newest DO probe has a robust design with a smaller footprint allows for easier handling with enhanced durability.



## Technical Data\*

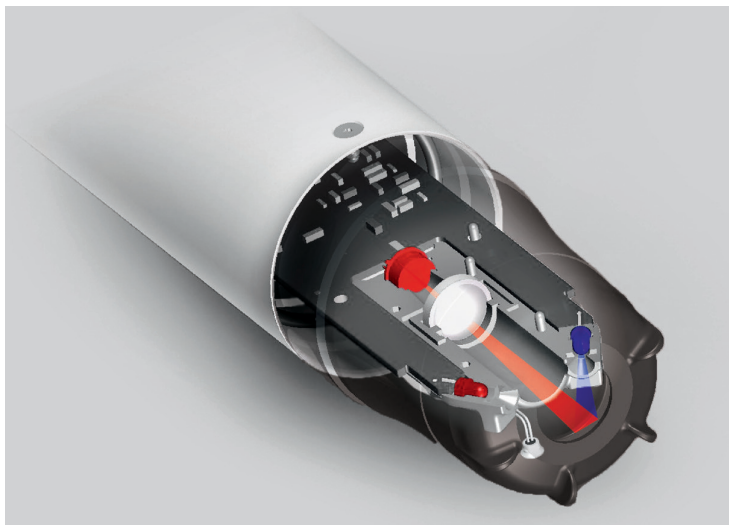
<b>Range</b>	0 - 20.00 ppm
	0 - 20.00 mg/L
	0 - 200% saturation
<b>Accuracy</b>	± 0.05 ppm below 5 ppm
	± 0.1 ppm above 5 ppm
<b>Response Time</b>	T <sub>90</sub> < 40 s
	T <sub>95</sub> < 60 s
<b>Resolution</b>	0.01 ppm (mg/L)
	0.1% saturation
<b>Repeatability</b>	± 0.1 ppm (mg/L)

<b>Flow Rate</b>	None required
<b>Sensor Immersion Depth</b>	Pressure Limits at 345 kPa 345 kPa (50 psi), maximum; accuracy may not be maintained at this depth
<b>Transmission Distance</b>	400 m (1312 ft.) maximum when used with a termination box
<b>Cable Length</b>	10 m (options with 30 m, 60 m)
<b>Dimensions (D x L)</b>	48.25 mm x 254 mm
<b>Weight</b>	1 kg (2.2 lbs)

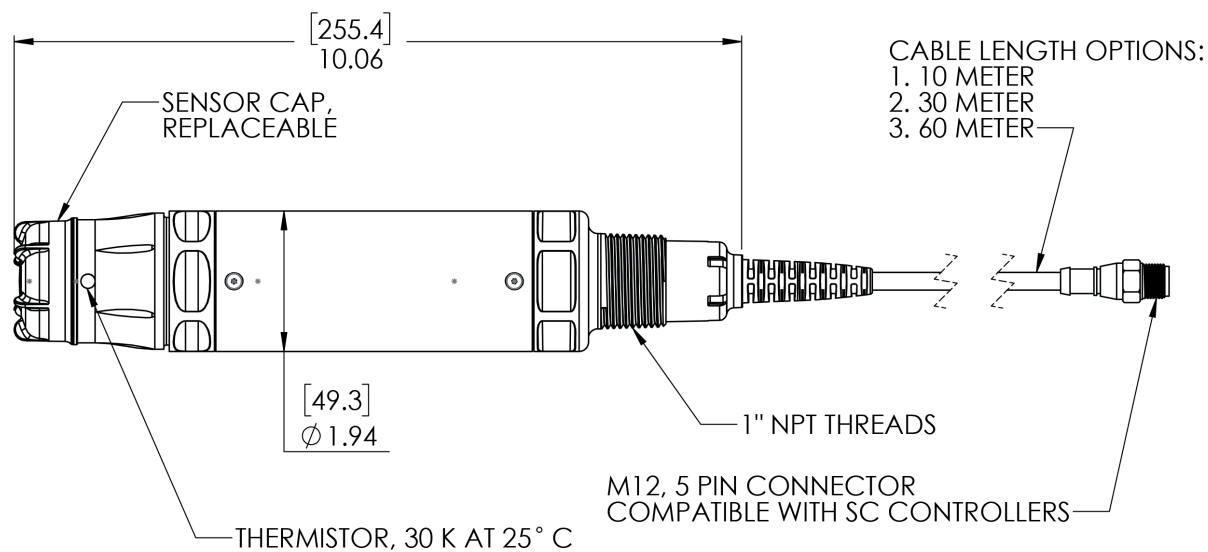
*\*Subject to change without notice.*

## Principle of Operation

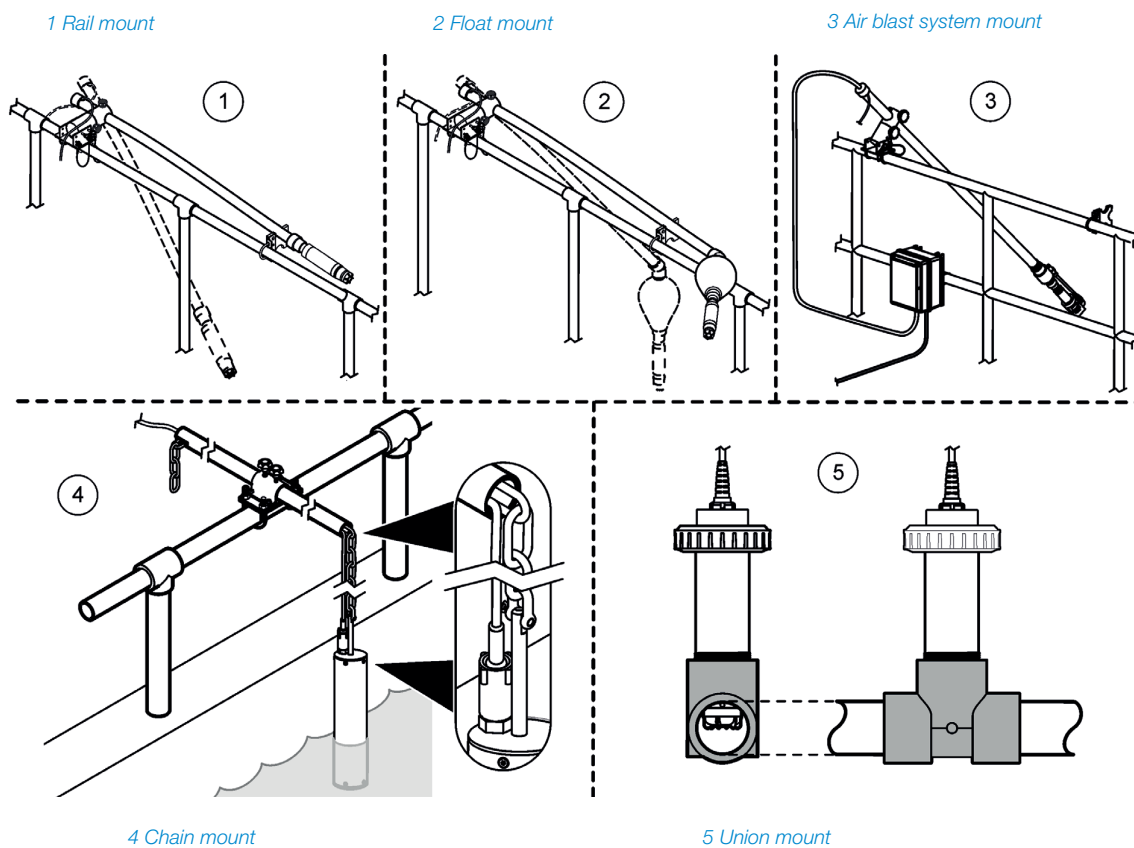
The Hach LDO sc sensor is coated with a luminescent material. Blue light from an LED is transmitted to the sensor surface. The blue light excites the luminescent material. As the material relaxes it emits red light. The time it takes for the red light to be emitted is measured. Between the flashes of blue light, a red LED is flashed on the sensor and used as an internal reference. Increased oxygen in the sample decreases the time it takes for the red light to be emitted. The time measurements correlate to the oxygen concentration.



## Dimensions



## Installation / Mounting



## Order Information

### Sensor

<b>9020000</b>	Hach LDO 2 sc Dissolved Oxygen Probe
<b>9020000-UPGRADE</b>	Hach LDO 2 sc Dissolved Oxygen Probe, with Mounting Conversion Adapter

*Please note that a Hach SC controller is required to operate the LDO sc Sensor, controller must be purchased separately.*

### Accessories

<b>5867000</b>	Digital Termination Box
<b>5796000</b>	Digital Extension Cable, 7.7 m (25 ft.)
<b>5796100</b>	Digital Extension Cable, 15 m (50 ft.)
<b>5796200</b>	Digital Extension Cable, 30 m (100 ft.)
<b>6860000</b>	High Output Air Blast Cleaning System, 115 VAC
<b>6860100</b>	High Output Air Blast Cleaning System, 230 VAC
<b>9253500</b>	Air Blast Hardware Components

### Replacements and Parts

<b>9021100</b>	LDO sc Model 2 Sensor Cap Replacement Kit
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### Mounting Kits

<b>9253000</b>	Pole Mount Kit, PVC
<b>9253100</b>	Ball Float Mount Kit, PVC
<b>9257000</b>	Union Mount Kit, PVC
<b>9253400</b>	Mounting Conversion Adapter, LDO sc Model 1 to LDO sc Model 2
<b>7300800</b>	1" NPT sc Sensors Flow Cell

### Controllers

#### SC4500 Digital Controllers

<b>LXV525.99A11551</b>	SC4500 Controller, Prognosys, 5x mA Output, 2 digital Sensors, without plug
<b>LXV525.99A11541</b>	SC4500 Controller, Prognosys, 5x mA Output, 1 digital Sensor, 1 mA Input, without plug
<b>LXV525.99A11501</b>	SC4500 Controller, Prognosys, 5x mA Output, 1 digital Sensor, 100-240 VAC, without power cord

#### SC1000 Digital Controllers

<b>LXV402.99.00002</b>	SC1000 Display Module
<b>LXV400.99.1R572</b>	SC1000 Probe Module, 4 Sensors, 4x 4-20mA Out, 4x 4-20mA In, 4x Relays, 100-240 V AC with Conduits
<b>LXV400.99.1B572</b>	SC1000 Probe Module, 4 Sensors, 4x 4-20mA Out, 4x 4-20mA In, Modbus® RS485, 4x Relays, 100-240 V AC with Conduits
<b>LXV400.99.1F572</b>	SC1000 Probe Module, 4 Sensors, 4x 4-20mA Out, 4x 4-20mA In, Profibus® DP, 4x Relays, 100-240 V AC with Conduits
<b>LXV400.99.1R582</b>	SC1000 Probe Module, 6 Sensors, 4x 4-20mA Out, 4x 4-20mA In, 4x Relays, 100-240 V AC with Conduits

*Additional controller configurations are available. Please contact Hach Technical Support or your Hach representative.*



This instrument connects to Claros, Hach's innovative Water Intelligence System.

Claros allows you to seamlessly connect and manage instruments, data, and process – anywhere, anytime. The result is greater confidence in your data and improved efficiencies in your operations. To unlock the full potential of Claros, insist on Claros Enabled instruments.



With Hach Service, you have a global partner who understands your needs and cares about delivering timely, high-quality service you can trust. Our Service Team brings unique expertise to help you maximize instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk.



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In the interest of improving and updating its equipment, Hach Company reserves the right to alter specifications to equipment at any time. **DOC053.53.35335May23**

## 6. Sc4500 Data Sheet

# Digital Controller SC4500

## Applications

- Wastewater
- Drinking Water
- Industrial Water
- Other



## Ready for Now. Ready for the Future.

Technologies are advancing rapidly, providing new levels of convenience, accuracy, and efficiency. Which is exactly why the SC4500 Controller from Hach® is designed to integrate easily into your current system while allowing you to upgrade as your capabilities advance, without having to replace inventory. With a wide range of analog and digital connectivity options and the availability of intelligent instrument and data management features, the SC4500 unlocks the future, today.

### Easy Adoption

The familiar experience of a modern touchscreen, the ability to use your current Hach sensors, and the same footprint as the SC200, make installation and integration of the SC4500 Controller seamless.

### No Time for Downtime

The SC4500's built-in predictive diagnostic software ensures measurement confidence and reduces the risk of unexpected equipment downtime by enabling proactive maintenance planning via MSM, including step-by-step instructions.

### The Connectivity Options You Need

The Controller provides local communication to SCADA or a PLC, as well as remote access through a secure, cloud-based connectivity option to integrate with Claros™, the Water Intelligence System from Hach. From analog and advanced digital protocols to wi-fi, cellular or LAN, the SC4500 gives you the flexibility to adapt in a rapidly changing world.



Be Right™

## Technical Data\*

<b>Description</b>	Microprocessor-controlled and menu-driven controller that operates the sensor
<b>Dimensions</b>	½ DIN - 144 x 144 x 192 mm (5.7 x 5.7 x 7.6 in.)
<b>Weight</b>	3.7 lb (controller only, w/o modules)
<b>Display</b>	3.5-inch TFT color display with capacitive touchpad
<b>Enclosure Rating</b>	UL50E type 4X, IEC/EN 60529-IP 66, NEMA 250 type 4X Metal enclosure with a corrosion-resistant finish
<b>Operating Temperature Range</b>	-20 to 60 °C (-4 to 140 °F) (8 W (AC)/9 W (DC) sensor load) -20 to 45 °C (-4 to 113 °F) (28 W (AC)/20 W (DC) sensor load) Linear derating between 45 and 60 °C (-1.33 W/°C)
<b>Storage Conditions</b>	-20 - 70 °C (-4 - 158 °F), 0 - 95% relative humidity, non-condensing
<b>Altitude</b>	2000 m (6562 ft) maximum
<b>Installation Category</b>	Category II
<b>Pollution Degree</b>	4
<b>Protection Class</b>	I, connected to protective earth
<b>Power requirements</b>	AC controller: 100-240 VAC ±10%, 50/60 Hz; 1 A (28 W sensor load) DC controller: 24 VDC +15% -20%; 2.5 A (20 W sensor load)
<b>Measurements</b>	Two device digital SC connectors
<b>Relays</b>	Two relays (SPDT);  Wire gauge: 0.75 to 1.5 mm <sup>2</sup> (18 to 16 AWG)  AC controller Maximum switching voltage: 100 - 240 VAC Maximum switching current: 5 A Resistive/1 A Pilot Duty Maximum switching power: 1200 VA Resistive/360 VA Pilot Duty  DC controller Maximum switching voltage: 30 VAC or 42 VDC Maximum switching current: 4 A Resistive/1 A Pilot Duty Maximum switching power: 125 W Resistive/28 W Pilot Duty
<b>Communication (optional)</b>	Analog: Five 0-20 mA or 4-20 mA analog outputs on each analog output module Up to two analog Input modules (0-20 mA or 4-20 mA). Each input module replaces a digital sensor input.  Digital: Profibus DPV1 module Modbus TCP Profinet IO module Ethernet IP module
<b>Network Connectivity</b>	LAN: Two Ethernet connectors (10/100 Mbps) Cellular: External 4G Wi-Fi
<b>USB Port</b>	Used for data download and software upload. The controller records approximately 20,000 data points for each connected sensor.
<b>Compliance Certifications</b>	CE, ETL certified to UL and CSA safety standards (with all sensor types), FCC, ISED, KC, RCM, EAC, UKCA, SABS, C (Morocco)
<b>Warranty</b>	12 months
<b>Compatible Network Technologies</b>	GSM 3G/4G (e.g. AT&T, T-Mobile, Rogers, Vodafone etc.) CDMA (e.g. Verizon)

\*Subject to change without notice.

## Compatible Instruments / Software Version (Release Year)

Amtax sc / V2.30 (2018) or higher

A-ISE sc / V1.02 or higher

AN-ISE sc / V1.08 (2013) or higher

N-ISE sc / V1.02 or higher

Nitratax clear sc, Nitratax eco sc,  
Nitratax plus sc / V3.13 (2013) or higher

Phosphax sc / V2.30 (2018) or higher

Phosphax sc LR/MR/HR / V1.01 (2018)  
or higher

TSS sc / V41.73 (2013) or higher

Solitax sc / V2.20 (2013) or higher

TU5300sc, TU5400sc / V1.34 (2017)  
or higher

SS7 sc (in Bypass) / V1.06 (2006)  
or higher

Ultraturb sc / V3.06 (2017) or higher

1720E / V2.10 (2006) or higher

Sonatax sc / V1.15 (2016) or higher

CL17sc / V2.7 (2019) or higher

CL10sc / V1.14 (2013) or higher

9184sc, 9185sc, 9187sc\* / V2.03 (2013)  
or higher

Uvas plus sc / V3.01 (2017) or higher

LDO 2 sc\* / V1.22 (2013) or higher

3798sc\* / V2.03 (2013) or higher

3700sc + Inductive Conductive Digital

Gateway 6120800 / V3.00 (2017) or higher

3422sc, Analog 3400 + Contacting Cond.  
Digital Gateway 6120700 / V3.00 or higher

pHD sc\*, pHD-S sc / V3.10 (2016) or  
higher

1200-S sc\* / V2.04 (2013) or higher

pHD analog + Digital Gateway 6120500 /  
V3.00 (2017) or higher

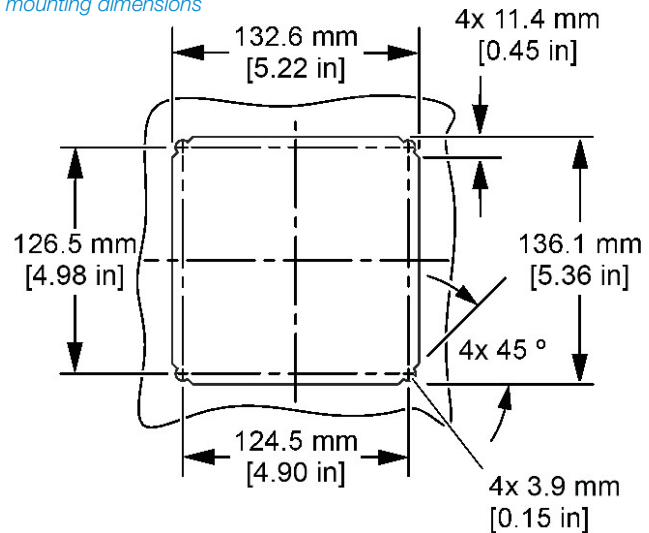
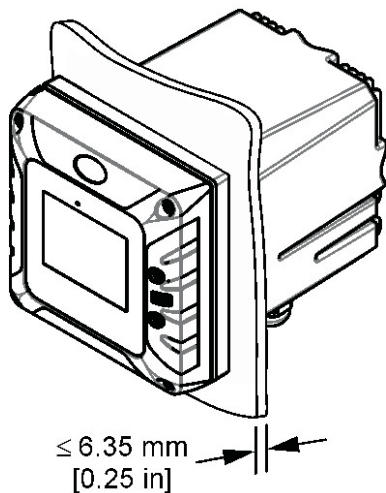
RC and PC analog sensor + Digital  
Gateway for conventional analog pH and  
ORP sensors 6120600 / V3.00 (2017) or  
higher

8362sc\* / V3.00 (2017) or higher

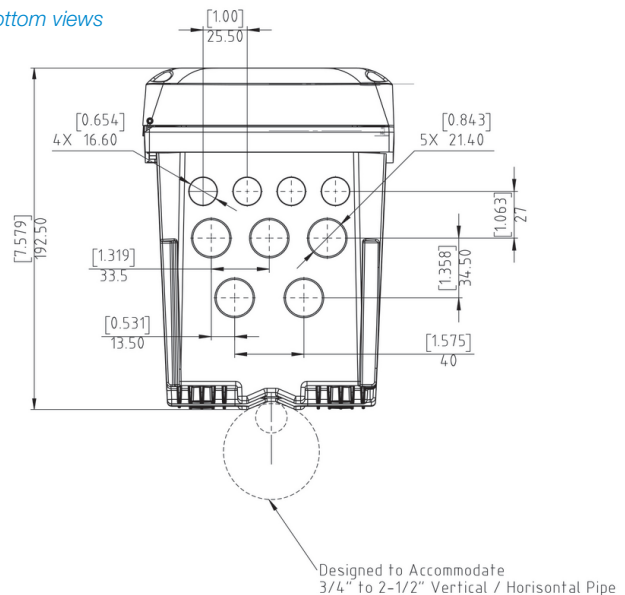
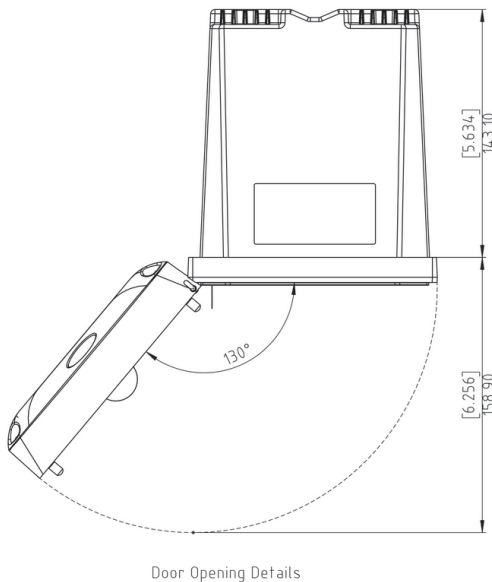
*\*Hardware Version 1 of instrument is not supported*

## Dimensions

Panel mounting dimensions



Top and bottom views





## Order Information

### Controller

<b>LXV525.99A11551</b>	SC4500 Controller, Prognosys, 5x mA Output, 2 digital Sensors, without plug
<b>LXV525.99E11551</b>	SC4500 Controller, Prognosys, 5x mA Output, 2 digital Sensors, US plug
<b>LXV525.99A11541</b>	SC4500 Controller, Prognosys, 5x mA Output, 1 digital Sensor, 1 mA Input, without plug
<b>LXV525.99E11541</b>	SC4500 Controller, Prognosys, 5x mA Output, 1 digital Sensor, 1 mA Input, US plug
<b>LXV525.99AA1551</b>	SC4500 Controller, Claros-enabled, 5x mA Output, 2 digital Sensors, without plug
<b>LXV525.99EA1551</b>	SC4500 Controller, Claros-enabled, 5x mA Output, 2 digital Sensors, US plug
<b>LXV525.99AA1541</b>	SC4500 Controller, Claros-enabled, 5x mA Output, 1 digital Sensor, 1 mA Input, without plug
<b>LXV525.99EA1541</b>	SC4500 Controller, Claros-enabled, 5x mA Output, 1 digital Sensor, 1 mA Input, US plug

*Additional configurations are available. Please contact Hach Technical Support or your Hach representative.*

### Accessories

<b>LXZ524.97.00042</b>	SC4x00 Input Module
<b>LXZ525.99.D0002</b>	SC4x00 mA Output Module (5 Outputs)
<b>LXZ525.99.C0002</b>	SC4500 Ethernet IP Upgrade Kit
<b>LXZ525.99.C0003</b>	SC4500 Modbus TCP/IP Upgrade Kit
<b>LXZ525.99.00026</b>	SC4500 Ethernet Cable M12 to M12 / C1D2, 10 m
<b>LXZ525.99.00017</b>	SC4500 USB Stick
<b>LXZ524.99.00004</b>	SC4x00 UV Protection Screen
<b>LXZ524.99.00005</b>	SC4x00 UV Protection Screen with Sunroof
<b>LXZ524.99.00033</b>	SC4x00 Sunroof Visor
<b>LXZ524.99.00036</b>	SC4x00 Mounting Hardware Sunroof with Visor
<b>LXZ524.99.00037</b>	SC4x00 Sunroof with Visor



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