

***INSTALLATION AGREEMENT
FOR
City of San Leandro***

TERMS AND CONDITIONS

ATTACHMENTS

Attachment “A” – Scope of Work

Attachment “B” – Technical Appendix

Attachment “C” - Community Workforce Agreement

Attachment “D” – Insurance

CLIMATEC INSTALLATION AGREEMENT

This Installation Agreement (“Agreement”) dated September 21, 2020 (“Effective Date”) is made by and between:

City of San Leandro
 (“Purchaser”) with its principal place of business at
 835 E. 14th Street, San Leandro, CA 94577
 and
 Climatec LLC
 With its principal place of business at
 2150 Towne Centre Place, Suite 200
 Anaheim, CA 92805

Purchaser and Climatec LLC agree as follows:

1. **INSTALLATION.** Climatec LLC shall provide Purchaser with an Energy Efficiency Program, as identified in **Attachment(s) A, B and C** and incorporated herein by reference (hereinafter referred to as the “Work”) at the total fixed price of Eight Million Forty Five Thousand Seven Hundred Eighty One and 00/100 Dollars (\$8,045,781.00) including required taxes and Performance Bond (the “Contract Amount”).

Climatec LLC is responsible for the design, engineering, permits, fees, approvals (except DSA inspections unless specifically noted in Attachment A), project management, installation, startup, training, checkout, warranty, and insurance specifically associated with the Work to be performed. Climatec LLC is not responsible for any equipment, systems, controls, comfort problems, balancing, duct cleaning, existing deficient conditions, etc. not specifically included in this Agreement. Climatec LLC will provide submittals and engineered drawings (if required), for Purchaser’s technical review and written approval, prior to initiating construction. As-builts will be provided. All construction and associated cleanup shall be performed and scheduled so as to minimize any disruption with any ongoing Purchaser activities. Climatec LLC requires all underground conduits between buildings to be clear of obstruction, of sufficient size to accommodate new wire and cable, and easily accessible. The Purchaser is responsible for Ethernet drops at each location for Energy Management System communication. This proposal offer is valid until December 20, 2020.

2. **SCOPE OF WORK.** Once this contract is executed by the Purchaser and Climatec LLC, Climatec LLC may not revise the contract in any way except by mutual agreement with the Purchaser. Prior to the contract being signed by both parties, Climatec LLC reserves the right to revise any or all portions of the agreement. The scope of work is defined in Attachments A and B.

This agreement is based upon the use of straight time labor only unless stated otherwise in this agreement. Purchaser agrees to provide Climatec LLC with required field utilities (electricity, toilets, drinking water, etc.) without charge. Climatec LLC agrees to keep the jobsite clean of debris arising out of its own operations. Purchaser shall not back charge Climatec LLC for any cost or expenses without Climatec LLC’s written consent. Unless specifically noted in the statement of the scope of the work or services undertaken by Climatec LLC under this agreement, Climatec LLC’s obligations under this agreement expressly exclude any work or service of any nature associated or connected with the identification, abatement, clean up, control, removal or disposal of environment Hazards or dangerous substances, to include but not to be limited to asbestos, PCBs, or mold discovered in or on the premises. Any language or provision of the agreement elsewhere contained which may authorize or empower the Purchaser to change, modify or alter the scope of work or services to be performed by Climatec LLC shall not operate to compel Climatec LLC to perform any work relating to Hazards without Climatec LLC’s express written consent.

- 2a. **The term of this Agreement** shall begin on the Effective Date and shall end on the date of completion as mutually decided between the City and Climatec LLC, and Climatec LLC shall complete the work described in Attachment A on or before that date, unless the term of the Agreement is otherwise terminated or extended, as provided for in Section 8. The time provided to Climatec LLC to complete

the services required by this Agreement shall not affect the City's right to terminate the Agreement, as referenced in Section 8.

- 2b. **Standard of Performance.** Climatec LLC shall perform all services required pursuant to this Agreement in the manner and according to the standards observed by a competent practitioner of the profession in which Climatec LLC is engaged.
 - 2c. **Assignment of Personnel.** Climatec LLC shall assign only competent personnel to perform services pursuant to this Agreement. In the event that City, in its sole discretion, at any time during the term of this Agreement, desires the reassignment of any such persons, Climatec LLC shall, immediately upon receiving notice from City of such desire of City, reassign such person or persons.
 - 2d. **Time.** Climatec LLC shall devote such time to the performance of services pursuant to this Agreement as may be reasonably necessary to meet the standard of performance and to satisfy Climatec LLC's obligations hereunder.
 - 2e. **Community Workforce Agreement.** Climatec LLC shall be required to comply with the provisions of the San Leandro Community Workforce Agreement (Attachment F) effective January 1, 2016.
3. **INVOICING & PAYMENTS.** Climatec LLC may invoice the Purchaser for any equipment and/or materials installed at a job site. Purchaser agrees to pay Climatec LLC amounts invoiced upon receipt of invoice. Waivers of lien will be furnished upon request, as the work progresses; to the extent payments are received.
- 3.1 **Monthly Payment.** City shall make monthly payments, based on invoices received, for services satisfactorily performed, and for authorized reimbursable costs incurred. City shall have 30 days from the receipt of an invoice that complies with all of the requirements above to pay Climatec LLC.
 - 3.2 **Final Payment.** City shall pay the last 5% of the total sum due pursuant to this Agreement within 60 days after completion of the services and submittal to City of a final invoice, if all services required have been satisfactorily performed.
 - 3.3 **Total Payment.** City shall pay for the services to be rendered by Climatec LLC pursuant to this Agreement. City shall not pay any additional sum for any expense or cost whatsoever incurred by Climatec LLC in rendering services pursuant to this Agreement. City shall make no payment for any extra, further, or additional service pursuant to this Agreement.
- In no event shall Climatec LLC submit any invoice for an amount in excess of the maximum amount of compensation provided above for the entire Agreement, unless the Agreement is modified prior to the submission of such an invoice by a properly executed change order or amendment.
- 3.4 **Payment of Taxes.** Climatec LLC is solely responsible for the payment of employment taxes incurred under this Agreement and any similar federal or state taxes.
 - 3.5 **Payment upon Termination.** In the event that the City or Climatec LLC terminates this Agreement pursuant to Section 8, the City shall compensate the Climatec LLC for all outstanding costs and reimbursable expenses incurred for work satisfactorily completed as of the date of written notice of termination. Climatec LLC shall maintain adequate logs and timesheets to verify costs incurred to that date.
 - 3.6 **Authorization to Perform Services.** Climatec LLC is not authorized to perform any services or incur any costs whatsoever under the terms of this Agreement until receipt of Notice to Proceed from the Contract Administrator.

4. **INDEPENDENT CONTRACT.** It is agreed between Purchaser and Climatec LLC that Climatec LLC shall perform the Work as an independent contractor. Climatec LLC may use subcontractors to perform work hereunder, provided Climatec LLC shall fully pay said subcontractors and in all instances remain fully responsible for (a) the proper completion of this agreement and (b) supervising such subcontractor's work and for the quality of the work they produce.
5. **MATERIALS.** All materials shall be new, in compliance with all applicable laws and codes, and shall be covered by a manufacturer's warranty, if appropriate. If the materials or equipment included in this agreement become temporarily or permanently unavailable, the time for performance of the work shall be extended to the extent thereof, and in case of permanent unavailability, Climatec LLC shall (a) be excused from furnishing said materials or equipment, and (b) be reimbursed for the difference between the cost of the materials or equipment permanently unavailable and the cost of a reasonable substitute therefore.
6. **COMPLETION.** The work specified in Section 1 shall be considered completed upon approval by the Purchaser, provided that the Purchaser's approval shall not be unreasonably withheld.
7. **WARRANTY.** Climatec LLC warrants that the equipment and systems provided under this contract shall be free from defects in material and workmanship arising from normal usage for a period of one year from the date of beneficial use or eighteen months from delivery of said equipment or systems. Within the warranty period, if Purchaser provides written notice to Climatec LLC of any such defects within thirty (30) days after the appearance or discovery of such defect, Climatec LLC shall, at its option, repair or replace the defective equipment and return said equipment to Purchaser. All transportation charges incurred in connection with the warranty for equipment shall be borne by Purchaser, unless otherwise provided for in manufacturer warranties. These warranties do not extend to any equipment which has been repaired by others, abused, altered or misused, or which has not been properly and reasonably maintained. All transferable manufacturer warranties associated with the equipment will be transferred to the Purchaser. These warranties are in lieu of all other warranties, expressed or implied, including but not limited to those of merchantability and fitness for a specific purpose.
8. **LIABILITY.** Climatec LLC shall not be liable for any special, indirect, or consequential damages arising in any manner from the equipment, material, or systems furnished or the work performed pursuant to this agreement.
9. **TAXES.** The price of this agreement (\$8,045,781.00) includes duties, sale, use, excise or other similar taxes required by federal, state or local laws in effect at the time of agreement execution.
10. **DELAYS.** Climatec LLC shall not be liable for any delay in the performance of the work resulting from or attributed to acts or circumstance beyond Climatec LLC's control, including but not limited to acts of God, riots, labor disputes, conditions of the premises, acts or omissions of the Purchaser, or other Contractors or delays caused by suppliers or subcontractors of Climatec LLC, etc. If Purchaser delays project for greater than 60 days, Climatec LLC can recover any cost inflation on un-billed materials that were either stored or yet to be purchased.
11. **REBATES, UTILITY INCENTIVES, AND GRANTS.** Unless otherwise stated in the project scope-of-work, or cash flow analysis, any and all rebates, incentives, grants that are earned through the course of this project from public or private utilities, municipalities, development districts or state funding are 100% the property of the Purchaser. The paperwork, inspections and verification required to collect these monies are the sole responsibility of the Purchaser. Climatec LLC agrees to assist the Purchaser where required by the jurisdiction in the form of data required for the application and authorizing signatures.
12. **TAX CREDITS, TAX DEDUCTIONS AND 179d QUALIFYING CREDITS.** Unless otherwise stated in the contract, any and all eligible tax credits or incentives that can be earned through the course of this project from State, Local or Federal agencies for energy efficient design are 100% the property of Climatec LLC or their designee. The paperwork, inspections and verification required to collect these credits are the sole responsibility of Climatec LLC. The customer agrees to assist Climatec LLC where required by the jurisdiction in the form of data required for the application and authorizing signatures and/or transfers. In the event the Customer incurs expenses related to the processing of the applications, Climatec LLC shall reimburse these direct costs.

- 13. COMPLIANCE WITH LAWS.** Climatec LLC shall comply with all applicable federal, state, and local laws and regulations. The laws of the State of California shall govern this Agreement. All licenses and permits required for the prosecution of the work shall be obtained and paid for by Climatec LLC. Purchaser agrees to provide Climatec LLC with the DIR project registration number within 5 days of execution of this agreement as required per statute. Climatec LLC's failure to comply with any law(s) or regulation(s) applicable to the performance of the work hereunder shall constitute a breach of contract. Climatec LLC, once notified of the breach shall have a reasonable opportunity to cure the breach.
- 14. DIR REGISTRATION OF CONTRACTOR AND SUBCONTRACTORS.** A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in the Labor Code, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

This Project is a public works project as defined in Labor Code section 1720. Each contractor bidding on this Project and all subcontractors (of any tier) performing any portion of the Work must comply with the Labor Code sections 1725.5 and 1771.1 and must be properly and currently registered with DIR and qualified to perform public works pursuant to Labor Code section 1725.5 throughout the duration of the Project. For more information and up to date requirements, contractors are recommended to periodically review the DIR's website at www.dir.ca.gov. Contractor shall be solely responsible for ensuring compliance with Labor Code section 1725.5 as well as any requirements implemented by DIR applicable to its services or its subcontractors throughout the term of the Agreement and in no event shall contractor be granted increased payment from the District or any time extensions to complete the Project as a result of contractor's efforts to maintain compliance with the Labor Code or any requirements implemented by the DIR. Failure to comply with these requirements shall be deemed a material breach of this Agreement and grounds for termination for cause. The contractor and all subcontractors shall furnish certified payroll records as required pursuant Labor Code section 1776 directly to the Labor Commissioner in accordance with Labor Code section 1771.4 on at least on a monthly basis (or more frequently if required by the City or the Labor Commissioner) and in a format prescribed by the Labor Commissioner. The City reserves the right to withhold contract payments if the City is notified, or determines as the result of its own investigation, that contractor is in violation of any of the requirements set forth in Labor Code section 1720 et seq. at no penalty or cost to the District. Monitoring and enforcement of the prevailing wage laws and related requirements will be performed by the Labor Commissioner/ Department of Labor Standards Enforcement (DLSE)

- 15. VENUE.** In the event that either party brings any action against the other under this Agreement, the Parties agree that trial of such action shall be vested exclusively in the state courts of California in the County of Alameda or in the United States District Court for the Northern District of California.
- 16. NO IMPLIED WAIVER OF BREACH.** The waiver of any breach of a specific provision of this Agreement does not constitute a waiver of any other breach of that term or any other term of this Agreement.
- 17. OTHER GOVERNMENTAL REGULATIONS.** To the extent that this Agreement may be funded by fiscal assistance from another governmental entity, Climatec LLC and any subcontractors shall comply with all applicable rules and regulations to which City is bound by the terms of such fiscal assistance program provided that any such requirements are revealed and agreed to prior to signing of the agreement.
- 18. LICENSES AND PERMITS.** Climatec LLC represents and warrants to City that Climatec LLC and its employees, agents, and any subcontractors have all licenses, permits, qualifications, and approvals of whatsoever nature that are legally required to practice their respective professions. Climatec LLC represents and warrants to City that Climatec LLC and its employees, agents, any subcontractors shall, at their sole cost and expense, keep in effect at all times during the term of this Agreement any licenses, permits, and approvals that are legally required to practice their respective professions. In addition to the foregoing, Climatec LLC and any subcontractors shall obtain and maintain during the term of this Agreement valid Business Licenses from City.

19. **NONDISCRIMINATION AND EQUAL OPPORTUNITY.** Climatec LLC shall not discriminate, on the basis of a person's race, religion, color, national origin, age, physical or mental handicap or disability, medical condition, marital status, sex, or sexual orientation, against any employee, applicant for employment, subcontractor, bidder for a subcontract, or participant in, recipient of, or applicant for any services or programs provided by Climatec LLC under this Agreement. Climatec LLC shall comply with all applicable federal, state, and local laws, policies, rules, and requirements related to equal opportunity and nondiscrimination in employment, contracting, and the provision of any services that are the subject of this Agreement, including but not limited to the satisfaction of any positive obligations required of Climatec LLC thereby.
20. **TERMINATION.** City may cancel this Agreement at any time and without cause upon written notification to Climatec LLC. Climatec LLC may cancel this Agreement upon 30_days' written notice to City and shall include in such notice the reasons for cancellation. In the event of termination, Climatec LLC shall be entitled to compensation for undisputed services performed to the effective date of termination; City, however, may condition payment of such compensation upon Climatec LLC delivering to City any or all documents, photographs, computer software, video and audio tapes, and other materials provided to Climatec LLC or prepared by or for Climatec LLC or the City in connection with this Agreement.
21. **AMENDMENTS.** The Parties may amend this Agreement only by a writing signed by all the Parties.
22. **OPTIONS UPON BREACH BY CLIMATEC LLC.** If Climatec LLC materially breaches any of the terms of this Agreement, and, after a reasonable opportunity to cure such breach does not result in an acceptable cure, the City's remedies shall include, but are not limited to, the following:
- 22.1 Immediately terminate the Agreement;
 - 22.2 Retain the plans, specifications, drawings, reports, design documents, and any other work product prepared by Climatec LLC pursuant to this Agreement;
 - 22.3 Retain a different contractor to complete the work described in Exhibit A not finished by Climatec LLC;
or
 - 22.4 Charge Climatec LLC the difference between the costs to complete the work described in Attachment A that is unfinished at the time of breach and the amount that City would have paid Climatec LLC pursuant to Section 2 if Climatec LLC had completed the work.

23. **KEEPING AND STATUS OF RECORDS.**

Records Created as Part of Consultant's Performance. All reports, data, maps, models, charts, studies, surveys, photographs, memoranda, plans, studies, specifications, records, files, or any other documents or materials, in electronic or any other form, that Consultant prepares or obtains pursuant to this Agreement and that relate to the matters covered hereunder shall be the property of the City. Consultant hereby agrees to deliver those documents to the City upon termination of the Agreement. It is understood and agreed that the documents and other materials, including but not limited to those described above, prepared pursuant to this Agreement are prepared specifically for the City and are not necessarily suitable for any future or other use. City and Consultant agree that, until final approval by City, all data, plans, specifications, reports and other documents are confidential and will not be released to third parties without prior written consent of both Parties.

Consultant's Books and Records. Consultant shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services or expenditures and disbursements charged to the City under this Agreement for a minimum of 3 years, or for any longer period required by law, from the date of final payment to the Consultant to this Agreement.

Inspection and Audit of Records. Any records or documents that Subsection 9.2 of this Agreement requires Consultant to maintain shall be made available for inspection, audit, and/or copying at any time

during regular business hours, upon oral or written request of the City. Under California Government Code Section 8546.7, if the amount of public funds expended under this Agreement exceeds \$10,000.00, the Agreement shall be subject to the examination and audit of the State Auditor, at the request of City or as part of any audit of the City, for a period of 3 years after final payment under the Agreement.

- 24. DISPUTES.** Written notice of any Dispute must be provided to the other party, describing specific details of the dispute relating to changes in Work or claim for additional compensation, within seven (7) days of the occurrence of the condition. This notice must be provided via certified mail. For a reasonable period commencing on the day written notice of Dispute was provided, but not to exceed thirty (30) days, the parties shall in good faith attempt to resolve the Dispute. If the parties are unable to resolve the Dispute during this period, the parties shall proceed to binding arbitration. The arbitrator shall be neutral and mutually acceptable. The arbitrator shall determine all rights and obligations under this Agreement and the award of the arbitrator shall be final, binding, and enforceable. Any award issued pursuant to this provision may be enforced in a court of competent jurisdiction, and each party hereby consents to that jurisdiction. All venues for arbitration shall be in the locality in which the project is located.
- 25. CHANGE ORDER (Mid-Performance Amendments).** Climatec LLC and the Purchaser recognize that:
- a. Purchaser may desire a mid-job change in the specifications or scope that would add time and cost to the specified work.
 - b. Other provisions of the Agreement may be difficult to carry out because of unforeseen events, such as material shortage or labor strikes. If these or other events beyond the control of the parties reasonably require adjustments to this agreement, the parties shall make a good faith attempt to agree on all necessary particulars. Such agreements shall be put in writing, signed by the parties and added to this agreement. Failure to reach agreement shall be deemed a dispute to be resolved as agreed in section 14 of this agreement.
- 26. INDEMNITY.** Climatec LLC shall indemnify, defend with counsel acceptable to City, and hold harmless City and its officers, elected officials, employees, agents and volunteers from and against any and all liability, loss, damage, claims, expenses, and costs (including without limitation, reasonable attorney's fees and costs and fees of litigation) (collectively, "Liability") of every nature (except 3rd party consequential claims) arising out of or in connection with Climatec LLC's performance of the services called for or its failure to comply with any of its obligations contained in this Agreement, except such Liability caused by the negligence or misconduct of City.

Notwithstanding the forgoing, to the extent this Agreement is a "construction contract" as defined by California Civil Code Section 2782, as may be amended from time to time, such duties of Climatec LLC to indemnify shall not apply when to do so would be prohibited by California Civil Code Section 2782.

Climatec LLC must respond within 30 days to the tender of any claim for defense and indemnity by the City. If the Climatec LLC fails to accept or rejects a tender of defense and indemnity for a covered claim within 30 days, in addition to any other remedy authorized by law, so much of the money due the Climatec LLC under and by virtue of this Agreement as shall reasonably be considered necessary by the City, may be retained by the City until disposition has been made of the claim or suit for damages, or until the Climatec LLC accepts or rejects the tender of defense, whichever occurs first.

27. STATUS OF CLIMATEC LLC.

Independent Contractor. At all times during the term of this Agreement, Climatec LLC shall be an independent contractor and shall not be an employee of City. City shall have the right to control Climatec LLC only insofar as the results of Climatec LLC's services rendered pursuant to this Agreement and assignment of personnel pursuant to Subsection 1.3; however, otherwise City shall not have the right to control the means by which Climatec LLC accomplishes services rendered pursuant to this Agreement. Notwithstanding any other City, state, or federal policy, rule, regulation, law, or ordinance to the contrary, Climatec LLC and any of its employees, agents, and subcontractors providing services under this Agreement shall not qualify for or become entitled to, and hereby agree to waive any and all claims to, any compensation, benefit, or any incident of employment by City, including but not limited to eligibility to enroll in the California Public Employees Retirement System (PERS) as an employee of City and entitlement to any contribution to be paid by City for employer contributions and/or employee contributions for PERS benefits.

Climatec LLC Not an Agent. Except as City may specify in writing, Climatec LLC shall have no authority, express or implied, to act on behalf of City in any capacity whatsoever as an agent. Climatec LLC shall have no authority, express or implied, pursuant to this Agreement to bind City to any obligation whatsoever.

28. **OCCUPATIONAL SAFETY AND HEALTH.** The Parties hereto agree to notify each other immediately upon becoming aware of any alleged violation of, the Occupational Safety and Health Act (OSHA) relating in any way to the project or project site.
29. **ENTIRE AGREEMENT.** This agreement, upon acceptance, shall constitute the entire agreement between the parties and supersedes any prior representations or understandings.
30. **CHANGES.** No change or modification of any of the terms and conditions stated herein shall be binding upon Climatec LLC unless accepted by Climatec LLC in writing.
31. **SEVERABILITY.** If one or more of the provisions of this agreement are held to be unenforceable under laws, such provision(s) shall be excluded from these terms and conditions and the remaining terms and conditions shall be interpreted as if such provision were so excluded and shall be enforced in accordance to their terms and conditions.
32. **COUNTERPARTS.** This agreement may be executed in multiple counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument. A signature on a copy of this agreement received by either party by facsimile or portable document format (PDF) is binding upon the other party as an original. The parties shall treat a photocopy of such facsimile as a duplicate original.
33. **ASSIGNMENT.** Climatec LLC retains the right to assign its rights and obligations of this agreement with written consent of Purchaser.
34. **SUCCESSORS AND ASSIGNS.** The provisions of this Agreement shall inure to the benefit of and shall apply to and bind the successors and assigns of the Parties.
35. **CONFLICT OF INTEREST.** Climatec LLC may serve other clients, but none whose activities within the corporate limits of City or whose business, regardless of location, would place Climatec LLC in a “conflict of interest,” as that term is defined in the Political Reform Act, codified at California Government Code Section 81000 *et seq.*

Climatec LLC shall not employ any City official in the work performed pursuant to this Agreement. No officer or employee of City shall have any financial interest in this Agreement that would violate California Government Code Section 1090 *et seq.*

Climatec LLC hereby warrants that it is not now, nor has it been in the previous 12 months, an employee, agent, appointee, or official of the City. If Climatec LLC was an employee, agent, appointee, or official of the City in the previous 12 months, Climatec LLC warrants that it did not participate in any manner in the forming of this Agreement. Climatec LLC understands that, if this Agreement is made in violation of California Government Code Section 1090 *et seq.*, the entire Agreement is void and Climatec LLC will not be entitled to any compensation for services performed pursuant to this Agreement, including reimbursement of expenses, and Climatec LLC will be required to reimburse the City for any sums paid to the Climatec LLC. Climatec LLC understands that, in addition to the foregoing, it may be subject to criminal prosecution for a violation of California Government Code Section 1090 *et seq.*, and, if applicable, will be disqualified from holding public office in the State of California.

36. **ACKNOWLEDGMENT.** Both Climatec LLC and the Purchaser acknowledge having read this agreement and all contract documents incorporated herein and have executed this agreement on the date written above.

37. **APPROVAL.** Each party represents that the person that has executed this agreement on it's behalf is authorized to do so.

IN WITNESS WHEREOF, the parties have caused their duly authorized officers to execute this Agreement effective as of the date first above written.

City of San Leandro

DocuSigned by:
Jeff Kay

CS2A697A18A54E3
Signature

Jeff Kay

Print Name

Jeff Kay

Title

December 10, 2020 | 10:14:27 AM PST

Date

Climatec LLC

DocuSigned by:
Steve Siverson

AC16C7DF2F44B2...
Signature

Steve Siverson

Print Name

President

Title

December 10, 2020 | 10:05:29 AM PST

Date

Attachment “A”

Scope of Work

High Strength Waste (HSW) Receiving Facility

- * Provide and install necessary infrastructure in order to make food processing waste reception of 5,800 gallons per day possible at Digester #4 (west of the FOG building).
 - Scope of Work includes:
 - Engineering design
 - Demolition, removal and disposal of existing Fats, Oils, and Grease receiving station, including:
 - Iron sponge
 - All necessary equipment and piping required within the building
 - Site preparation
 - Equipment pads as required
 - Clean and repurpose the existing 13,000 gallon polyethylene tank for HSW storage
 - Provide and install one (1) 13,000 gallon polyethylene tank
 - Provide and install one (1) carbon canister odor scrubber
 - Provide and install one (1) rock trap at location of current receiving connection
 - Provide and install one (1) HSW fill/recirculation pump inside existing building
 - Provide and install one (1) HSW feed pump inside existing building
 - Provide and install necessary PHSW piping required for the operational system, including:
 - Interconnection piping between HSW equipment
 - Injection piping into the digester
 - Piping continuance from old micro turbine area to the Digester #1-3 control building for injection
 - Provide and install (2) Level sensors (one in each HSW storage tank)
 - Provide and install (1) Flow meter on feed pump discharge
 - Electrical disconnect and reconnect
 - Electrical conduit and required panels/connections
 - SCADA programming for the addition of this equipment.
 - Equipment and system start-up and testing.
 - Scope Assumptions:
 - The existing FOG control panel— can be reused for sending communication signals to plant SCADA system
 - The existing “FOG” line from Digester #4 control building to the old micro turbines can be reused
 - Scope of Work Excludes:
 - Any modifications, rehabilitations, or upgrades to the existing FOG building structure beyond what is normally needed for a functional system.
 - Controls routing between the FOG building and nearest Programmable Logic Controller (PLC) cabinet (see assumption above)
 - Routing of HSW piping between Digester #4 control building and old micro turbines (see assumption above)

- Any SCADA upgrades

Biogas to RNG (Renewable Natural Gas) System

- * Provide and install necessary plant infrastructure to produce Renewable Natural Gas from the current facility biogas supply (up to 100 cubic feet per minute). Scope of Work includes:
 - Engineering design, including design for the flare
 - Demolition, removal and disposal of the existing, mothballed gas conditioning system located between the FOG building and Digester #4 Control Building
 - Site preparation
 - Equipment pads as required
 - Provide and install one (1) new gas upgrading system consisting of:
 - Siloxane removal
 - H₂S removal
 - Moisture removal
 - CO₂ removal
 - Provide and install one (1) RNG compressor
 - Provide and install one (1) 500 gallon intermediate gas storage tank
 - Provide and install one (1) filling station for the mobile storage
 - Provide and install necessary RNG piping required for the operational system, including:
 - Interconnection piping between RNG equipment
 - Piping to new flare location
 - Install one (1) Flare (Flare equipment provided by the City)
 - Provide and install one (1) tube trailer for RNG storage and transportation for offsite sale
 - Electrical disconnect and reconnect
 - Electrical conduit and required panels/connections
 - SCADA programming for the addition of this equipment.
 - Start-up and testing of equipment and system operation.
 - Bay Area Air Quality Management District permit update coordination
- Scope Assumptions:
 - The existing FOG control panel can be reused for sending communication signals to plant SCADA system
- Scope Exclusions:
 - Controls routing between the FOG building and nearest Programmable Logic Controller (PLC) cabinet (see assumption above)
 - Flare equipment (to be provided by the City)
 - Any SCADA upgrades

Digester Mixer Replacement

- * Provide and install two (2) new high efficiency propeller mixers in Digester #4.
 - Scope of Work Includes:

- Engineering design
- Equipment pads as required
- Provide and install two (2) new mixers through the digester roof deck
- SCADA programming for the addition of this equipment.
- Electrical connection at existing MCC
- Electrical conduit and required panels/connections
- Equipment and system start-up and testing.
- Scope Assumptions:
 - The existing FOG control panel is reused for sending communication signals to plant SCADA system
- Scope Exclusions:
 - Controls routing between the FOG building and nearest Programmable Logic Controller (PLC) cabinet (see assumption above)
 - Any SCADA upgrades
- * Replace existing Digester #4 mixing pump with a Sulzer pump
 - Scope of Work Includes:
 - Demolition, removal and disposal of the existing Digester #4 mixing pump and ancillary piping
 - Equipment pad as required
 - Install one (1) Sulzer pump and motor (City supplied)
 - Provide and install soft start starter package for Sulzer pump
 - Provide and install all necessary suction and discharge piping
 - Electrical disconnect and reconnect
 - Start-up and testing of equipment and system operation.
 - Scope Exclusions:
 - No electrical conduit or conductor replacement or modifications

Blower Replacement and New Shelter Structure with Pad

- * Replace existing Lamson Blower #2 with a new high efficiency turbo blower to match existing Blower #3 model currently in use.
 - Scope of Work Includes:
 - Engineering design
 - Site preparation
 - Equipment pads as required
 - Demolition, removal and disposal of the existing Lamson Blower #2
 - Six foot by twelve foot extension of the concrete blower decking to accommodate new equipment
 - Relocation of the existing ground-mounted jockey compressor/blower
 - Provide and install one (1) new turbo blower
 - Provide and install all necessary discharge piping
 - Electrical disconnect and reconnect
 - Electrical conduit and required panels/connections
 - SCADA programming for the addition of this equipment

- Start-up and testing of equipment and system operation.
- Scope of Work Excludes:
 - Any work inside the existing blower building
 - No relocation of the electrical enclosures on the blower deck
 - Any SCADA upgrades

Heat Loop Pump Replacement

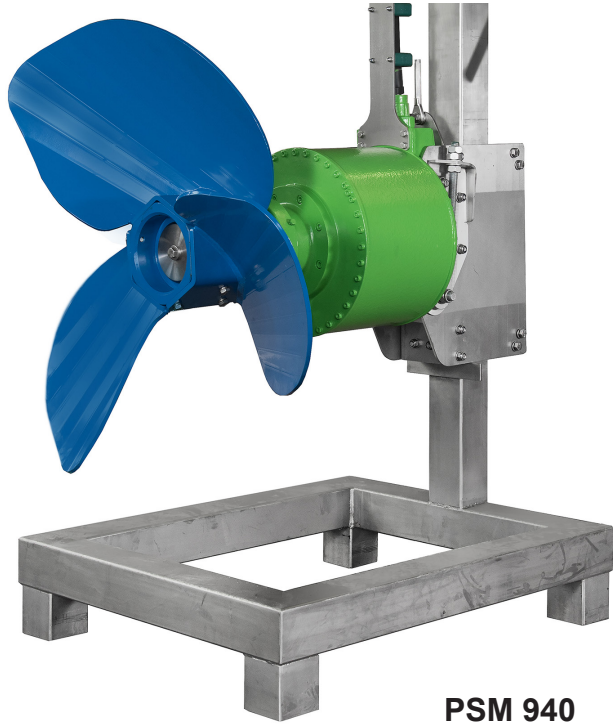
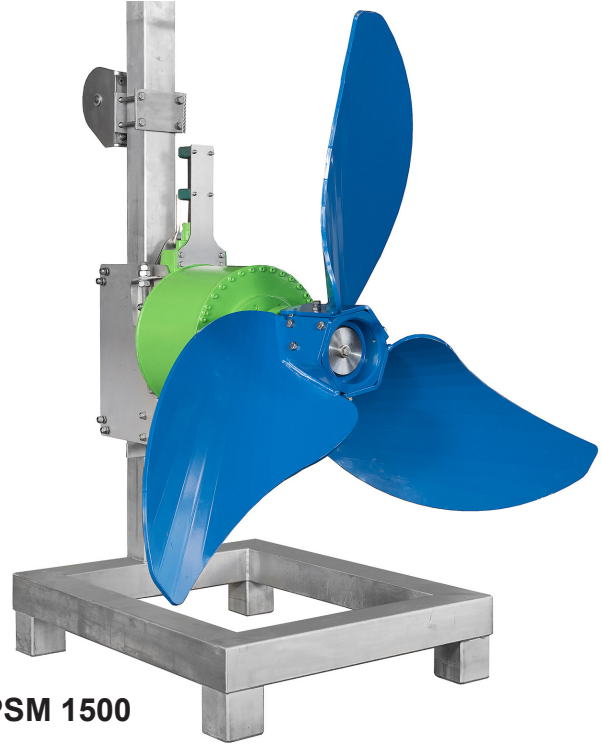
- * Replace two (2) existing 5 HP Heat Loop pumps in the Digester #1-3 Control Building with new high efficiency pumps of similar capacity and performance.
 - Scope of Work Includes:
 - Demolition, removal and disposal of the existing heat loop pumps
 - Electrical disconnect and reconnect
 - Provide and install all necessary discharge and suction piping
 - Insulate any new or exposed hot water pipe affected by the installation of the new equipment
 - Provide and install two (2) new high efficiency heat loop pumps
 - Start-up and testing of equipment and system operation.
 - Scope of Work Excludes:
 - Draining or flushing of the hot water loop
 - Controls or SCADA upgrades
 - No electrical conduit or conductor replacement or modifications

Battery Energy Storage System (BESS) with Micro grid Controller

- * Furnish and install one (1) new 500kW/1.1MWh battery system, to be utilized by the treatment plant, for peak demand shaving, energy arbitrage and serve as the primary backup power (up to the BESS rated capacity) during public safety power shutoff (PSPS) and other power grid interruptions.
 - Scope of Work Includes:
 - Design engineering
 - Site preparation
 - Equipment pads as required
 - Provide and install one (1) BESS north of the main electrical building (including auto transfer switch (ATS) and micro grid controller)
 - Electrical disconnect and reconnect
 - Electrical conduit and required panels/connections
 - Provide and install one (1) BESS medium voltage transformer
 - Provide a digital output from the BESS to the SCADA to indicate go/no-go status
 - Equipment and system start-up and testing.
 - Electrical Interconnection coordination with PG&E
 - Scope of Work Excludes:
 - Integration (other than the single digital output from the BESS to the SCADA to indicate go/no go noted above)of the BESS with the plant SCADA system

Attachment “B”

Technical Appendix

**PSM 940****PSM 1500**

The **PSM-940** and **PSM-1500** submersible electric mixers are compact units that handle high viscosity high solids mixing applications. These reliable and robust mixers deliver high thrust on demand while automatically reducing energy consumption.

Features

- Sickle-shaped, thrust-optimized propeller geometry
- The direct gearless drive with a variable-speed permanent magnet synchronous motor eliminates a gearbox within the process tank
- Standard 150x150mm square guide post mounting bracket
- Low maintenance front bearing with mechanical seal
- Standard 15m long electrical cable with cable clamps
- Leakage sensor and thermal winding protection

Advantages

- Higher thrust at reduced rotational speed
- Enormous power reserves for significantly higher thrusts on demand
- Resistant to clogging from long fibres and rags - suitable for municipal wastewater digesters
- Low operation and maintenance costs

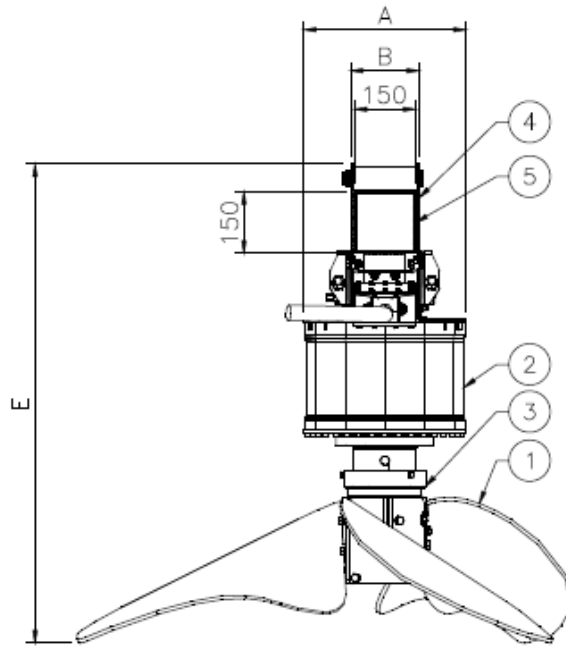
Applications

- Municipal wastewater resource recovery facilities
- Anaerobic digesters processing organic fraction from municipal solid waste
- Agri-Food including manure storage, anaerobic digestion and digestate holding tanks



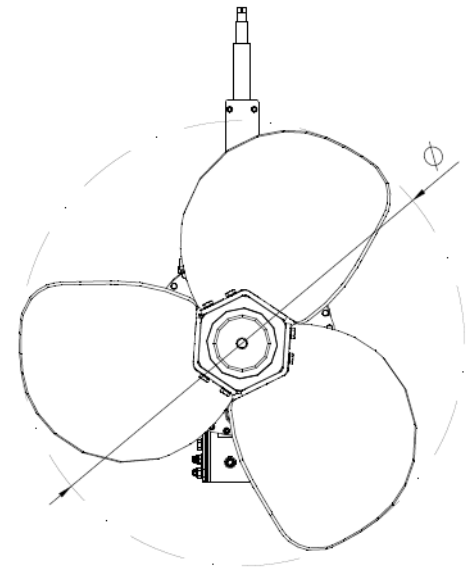
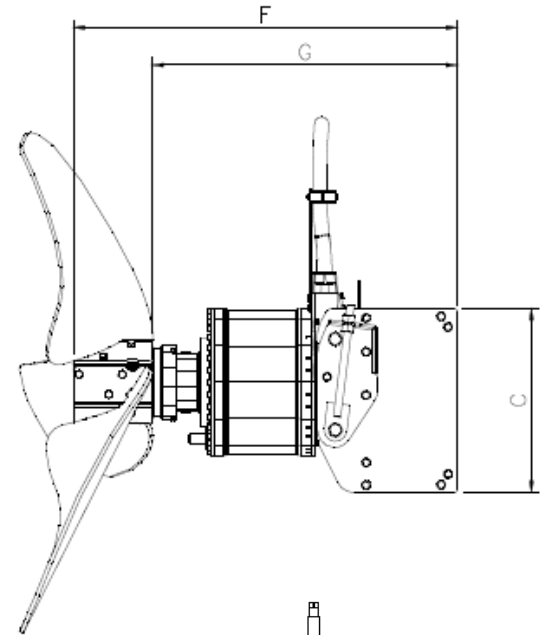


TRG-E-PSM



1	Blade
2	PSM motor
3	Bearing Assembly
4	Bracket / Console
5	Support Post

**Thrust, Torque and Shaft Power curves available



Motor Specifications	
Motor Type	High torque, permanent magnet synchronous motor (PSM)
Power Transmission	Direct gearless drive
Power* (*Dependant on Medium)	Operation: 7-12.5 kW
Torque* (*Dependant on Medium)	Normal Operation: 500-550 Nm Maximum: 800 Nm
Maximum Ambient Temperature	60°C
Thermal Protection	PTC Thermal control - PT100 (alternative KTY for Siemens FC)
Additional	<ul style="list-style-type: none"> • F class insulation (alternative H) • Mechanical seal • Winding Protection • Leakage sensor • ATEX Ex II 2G Explosion Protection

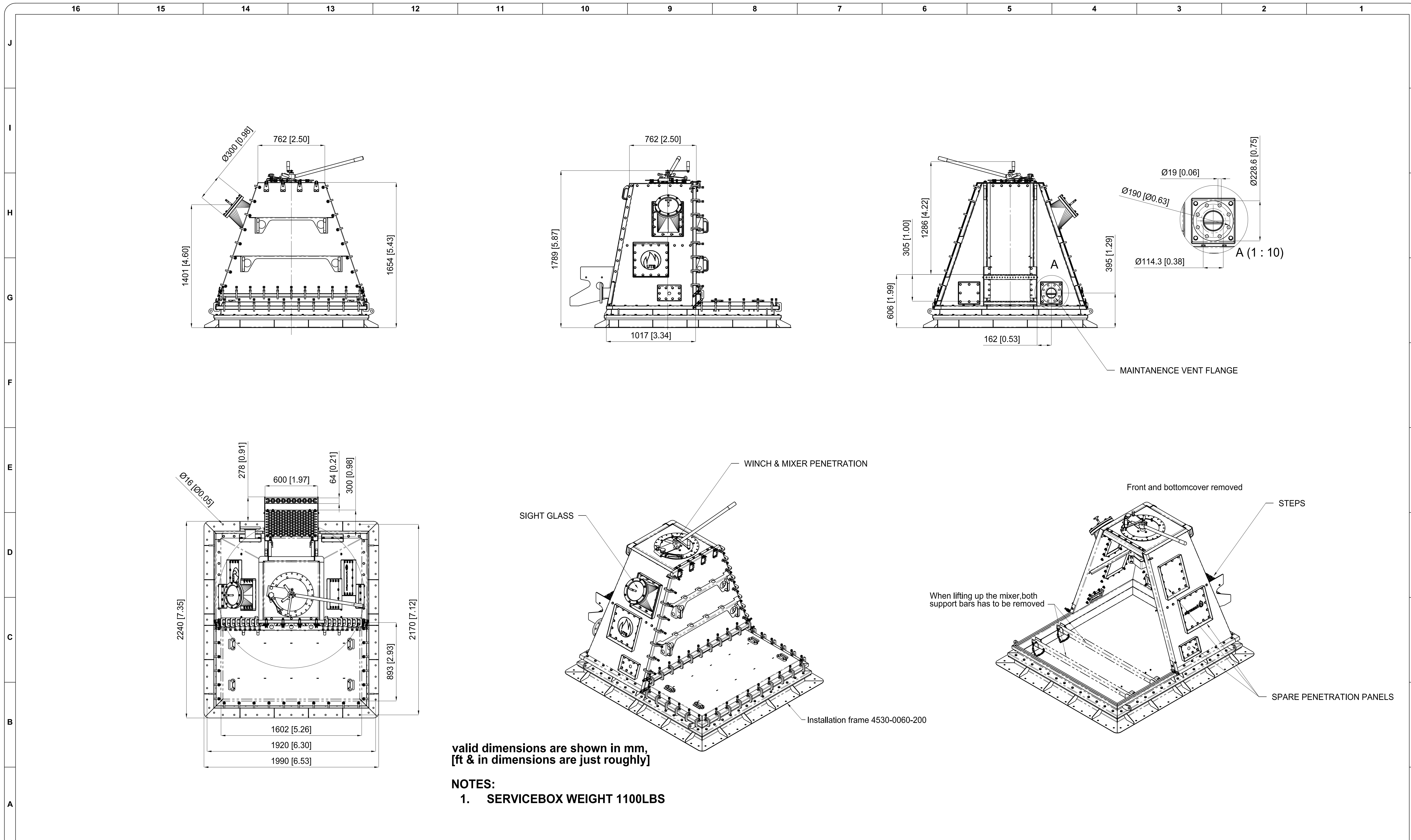
Propeller Specifications		
Model	TRG-E-PSM 125-094-3-150	TRG-E-PSM 125-150-3-150
Diameter	940 mm	1500 mm
Number of Blades	3	3
Geometry	3D; Sickle-shaped with optimized pitch	
Angle of Attack	Increasing from inside towards the outside	
Rotation (Dependant on Medium)	Maximum: 150 rpm Range: 120-150 rpm	Maximum: 120 rpm Range: 80-120 rpm
Thrust	Normal Operation: 3,550 N Range: 2,200-4,400 N	Normal Operation: 3,600 N Range: 1,900-6,500 N
Volumetric Flow	Normal Operation: 86 m ³ /min Maximum: 95 m ³ /min	Normal Operation: 111 m ³ /min Maximum: 153 m ³ /min

Model	940	1500
A	396 mm	396 mm
B	167 mm	167mm
C	489 mm	489 mm
∅	940 mm	1500 mm
E	1150 mm	1170 mm
F	1024 mm	1024 mm
G	814 mm	814 mm
Weight	310 kg	330 kg

*Weight includes drive unit and propeller

PRELIMINARY - NOT FOR CONSTRUCTION

D:_PROJECTS Archive USA-CA-Rock Creek Service Box Solidworks\Servicebox General Arrangement D-100.DWG 10/31/2019



valid dimensions are shown in mm,
[ft & in dimensions are just roughly]

- NOTES:
1. SERVICEBOX WEIGHT 1100LBS

REV NUM	DESCRIPTION	DRWN BY	CHK'D BY	DATE
A	ISSUED FOR REVIEW	AB	NM	12/19/16
B	REVISED PER COMMENTS-FINAL ISSUANCE	AB	NM	03/22/17

ATTENTION:
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" @ 22x34 or 1/2" @ 11x17, THEN DRAWING IS NOT TO SCALE - SCALE ACCORDINGLY



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DESIGNED:	
DRAWN:	A. BELTRAN
CHECKED:	
APPROVED:	
REFERENCE#:	
PROJECT NO.:	
SCALE:	1:20

ANAERGIA

SERVICEBOX GENERAL ARRANGEMENT

DRAWING NUMBER	D-100
REV	B



TECHNICAL QUOTATION REMARKS SULZER ABS TURBOCOMPRESSOR HST

Each Sulzer|ABS Turbocompressor HST is offered with the following standard package features and accessories included.

- 1) High Speed Unit including with Impeller, Motor, Labyrinth Seal, Magnetic Bearing System mounted on a skid
- 2) Temperature sensors for inlet and outlet, motor, VFD & MBC
- 3) Pressure sensors for inlet and outlet
- 4) Differential pressure sensor for inlet filter high pressure notification
- 5) Built in flow and speed measurement
- 6) Volute with Inlet & Outlet flanges
- 7) Magnetic Bearing Controller, MBC-12
- 8) High Performance Vacon NX VFD
- 9) RFI Filter & AC Choke
- 10) Blow Off Valve, electro-pneumatically controlled plug type
- 11) Control Cabinet with power interlock switch and local detachable HMI with display
- 12) Acoustic Noise Enclosure (see appendix for guaranteed dB(A))
- 13) UPS for Magnetic Bearing Controller
- 14) Technical Specification, Cut Sheets, Installation Manual, Commissioning, Manual, Operators Manual, Layout Drawings & Accessory Drawings

Factory Performance Test, only one blower, non-witnessed, in conformance with ISO 5389:1992 - Turbocompressors, VDI 2045:1993 – Acceptance and Performance Tests on Turbocompressors & Displacement Compressors.

TERMS AND CONDITIONS: Sulzer|ABS Standard Terms & Conditions apply.



TECHNICAL QUOTATION REMARKS SULZER ABS TURBOCOMPRESSOR HST

Comments & Exceptions:

- 1) Above items only; additional accessories available upon request.
- 2) No special tools are required
- 3) Sulzer|ABS's standard product is offered.
- 4) Anchor bolts are not included
- 5) Supply and installation of interconnecting communications cabling between each turbocompressor and the MCU (if supplied).
- 6) Installation of compressor units, accessories and associated pipe work
- 7) Supply and installation of electrical power and signal cables to each turbocompressor and the MCU (if supplied)
- 8) Provision of any further instrumentation other than that contained within each turbocompressor or the MCU (if supplied). This also excludes the pressure or D.O. transducer required to generate the 4-20ma signal for compressor control.
- 9) Pipe insulation as deemed necessary by the client to prevent contact with hot pipes.
- 10) Reasonable access to the site and working area to enable continuous installation.
- 11) Free access to facilities
- 12) The compressors are to be installed in a compressor room constructed by others.
- 13) The compressor room floor will be flat and level to standard civil tolerances.
- 14) That the Sulzer|ABS Turbocompressor HST can be off loaded and placed directly into the compressor building
- 15) Cable tray or ducts to each compressor for the communications cabling will be supplied and installed by others.
- 16) The above price does not include sales tax or other costs unless specifically included in this proposal.

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Appendix

- 1) Performance Graph
- 2) Technical Data Sheet
- 3) Turbocompressor Control Schematic
- 4) Master Control Unit Options (if provided)
- 5) Typical Sulzer|ABS Turbocompressor HST layout drawing
- 6) Compressor Test Code Comparison
- 7) Warranty

SULZER ABS TURBOCOMPRESSOR HST

APPENDIX

High Turbocompressor HST Performance



Date: 05-Nov-19

Quote No.: 2019-Q154-R1

HST 20-4500-1-U150-48

Total Design Air Flow: **3,000 SCFM**
Units: **1 Units -**

Air Flow Per Unit: **3,000 SCFM**
1 Operating + No Installed Spare

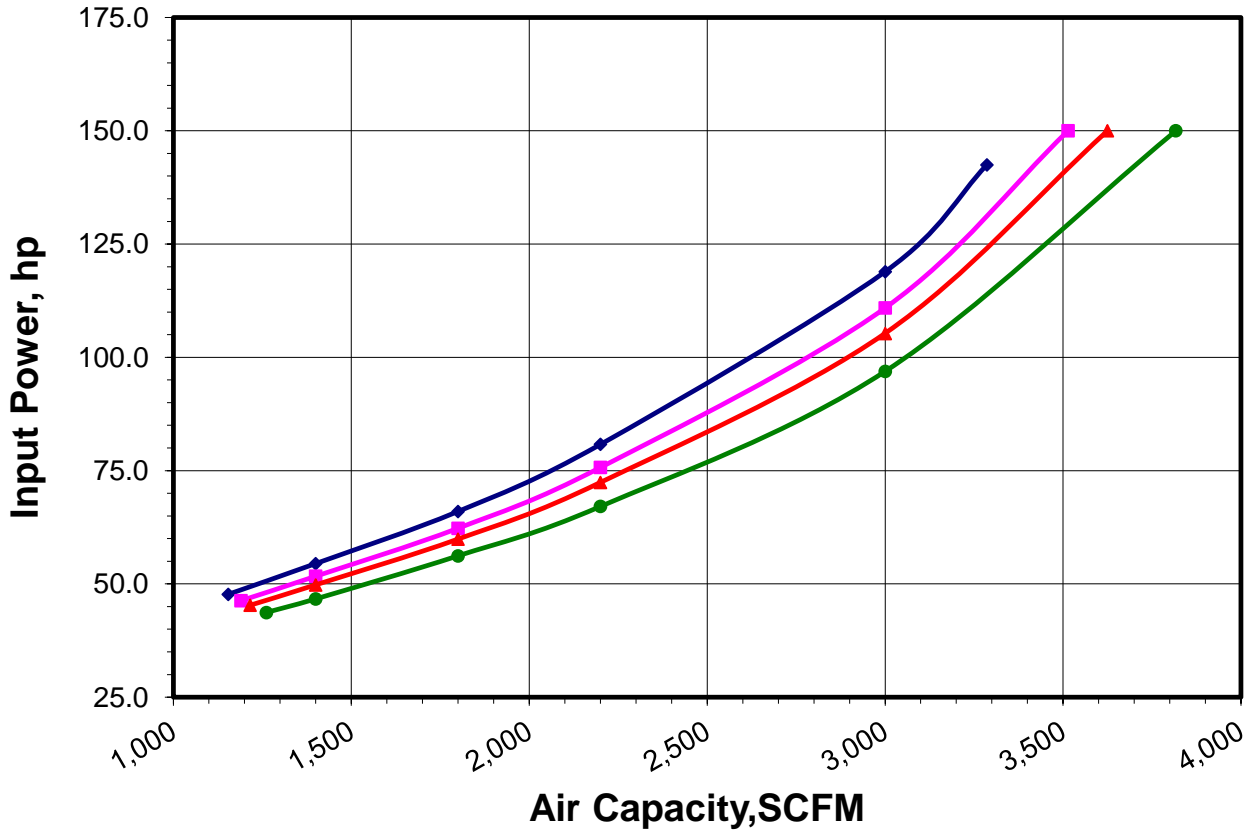
Maximum Input Power: **150 HP**
Electric Power: **480 / 3 / 60**
Maximum Motor Speed: **28,620 RPM**

Operating Pressure Ratio: **1.44**
Altitude: **13 ft**
Ambient Pressure: **14.69 psia**
Differential Pressure: **6.4 psig**

Operating Pressure Ratio Limit: **1.90**
Discharge Pressure: **21.09 psia**
Inlet Losses: **0.06 psig**

Inlet Temp. °F	RH %	Legend
110	50	◆
80	70	■
60	50	▲
25	10	●

Blower Performance



Please note that the input power is the wire to air power and includes all losses associated with the VFD, Motor, Impeller, etc.

HST™ 20 Turbocompressor

SULZER

A highly efficient and reliable single-stage centrifugal compressor for the provision of oil-free, low-pressure air.

Construction

High-speed electric motor

A vertically mounted high-frequency electric motor for variable speed operation. The motor is air-cooled by an integrated shaft mounted fan and the windings are protected by Pt100-sensors monitored by the local control system.

Air end

The impeller has been designed to optimize performance and is machined from a solid piece of high-strength aluminum alloy. The volute and other main components are made from cast aluminum. A non-contact seal between air-end and motor minimizes losses to maintain high efficiency.

Variable frequency drive

Flow control is provided by a built-in variable frequency drive which also accommodates variations in outlet pressure and ambient inlet conditions. The variable frequency drive's soft-start facility eliminates peak starting currents.

Active magnetic bearings

Two radial bearings and two axial bearings support the rotor. The magnetic bearing controller uses data provided by multiple sensors to continuously manage the position of the rotor.

Blow-off valve

The blow-off valve is mounted within the acoustic enclosure with further attenuation provided by an integrated silencer.

Acoustic enclosure

The enclosure provides protection for the electrical and mechanical components and provides efficient noise attenuation for the machine. The enclosure is constructed from zinc-plated steel. It is suitable for indoor use (IP 33D / NEMA 2).



Integrated components

The inlet filters for process and cooling air, inlet silencer, discharge silencer, and motor cooling air silencer are all integrated into the main assembly.

Compressor Control

Local control

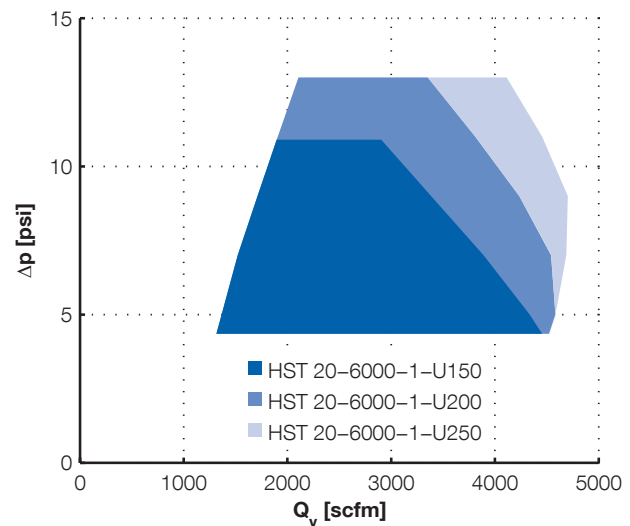
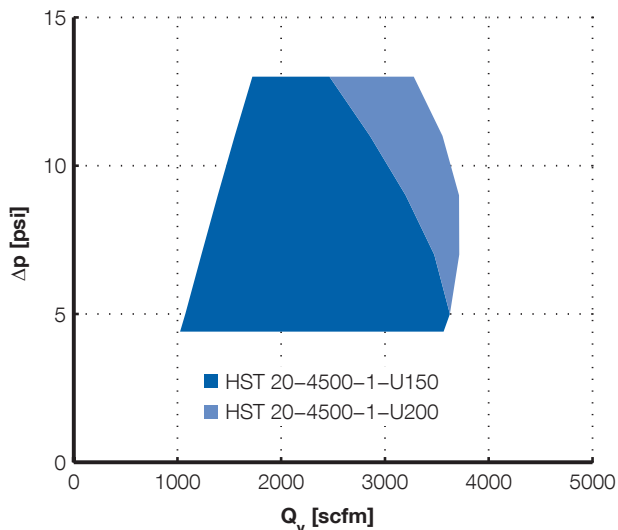
The built-in local Human-Machine-Interface (HMI) provides control and monitoring for the safe and efficient operation of the machine. Flow may be controlled directly by the operator, or alternatively, the turbocompressor can follow a given reference value. The local HMI uses a color touch screen to provide access to the operator.

Connections

Analog and digital control and monitoring connections are built in. Fieldbus connections such as Profibus, Profinet, Modbus RTU, Modbus TCP, and Ethernet IP are available as options.

Remote connections

A secure connection facilitating service and monitoring can be ordered as an option.



Options

Various options for handling special requirements regarding e.g., temperature, dusty environments and locations with high moisture can be selected.

Accessories

Required accessories for installation such as flexible joints, valves, silencers, and air filters are available from Sulzer.

Performance Testing

Compressor performance tests are performed on every machine manufactured and certificates issued to confirm compliance. The tests are carried out at the Sulzer factory test facility. Performance is guaranteed with a manufacturing tolerance of $\pm 2\%$ and a measurement tolerance according to ISO 5389. Optionally tests can be performed according to ISO 5389 or ASME PTC 10. The test can be witnessed by the customer or a third party inspector.

Certification and Standards

The compressor is certified according to the relevant UL and CSA standards:

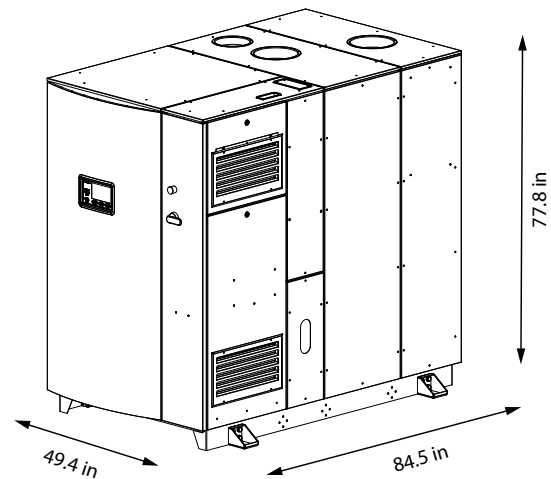
- UL 1450
- CSA C22.2 No. 68

The product is designed and manufactured in accordance with EN 61800-3 standard and intended for use in second environment locations, e.g., in industrial areas.

Installation Conditions ⁽¹⁾

Altitude	
Maximum altitude	8200 ft above sea level
Air quality	
Permitted chemical vapors	IEC 60721-3-3 class 3C3
Ambient conditions	
Ambient temperature range ⁽¹⁾	Min. 14 °F, max. +113 °F
Ambient relative humidity	< 95 %, non-condensing, non-corrosive, no dripping water
Inlet conditions	
Air temperature range for process air taken from the room	Min. 14 °F, max. +113 °F
Air temperature range for ducted process air inlet (option)	Min. -4 °F, max. +113 °F

⁽¹⁾ Sulzer may approve applications outside these criteria.



Compressor Data

	HST 20-4500-1-U150	HST 20-4500-1-U200	HST 20-6000-1-U150	HST 20-6000-1-U200	HST 20-6000-1-U250	
Air flow range [scfm]	1100-3600	1100-3700	1300-4400	1300-4500	1300-4700	
Pressure rise [psi]	4.4-13.3	4.4-13.3	4.4-10.9	4.4-13.3	4.4-13.3	
Noise level [dB]	61	62	60	62	62	
Input power [hp]	150	200	150	200	250	
Power supply [V]	460-600	460-600	460-600	460-600	460-600	
Input power frequency [Hz]	50/60	50/60	50/60	50/60	50/60	
480 V	Max. input current [A] ⁽²⁾	148	197	148	197	246
	Cable size [AWG or MCM]	3x3/0+1	3x4/0+1/0	3x3/0+1	3x4/0+1/0	3x300+3/0
	Fuse size [A]	160	200	160	200	250
580 V	Max. input current [A] ⁽²⁾	122	163	122	163	204
	Cable size [AWG or MCM]	3x1/0+3	3x4/0+1/0	3x1/0+3	3x4/0+1/0	3x300+3/0
	Fuse size [A]	125	200	125	200	250
Weight [lb]	2690-2890	2690-2890	2780-2975	2780-2975	2975	

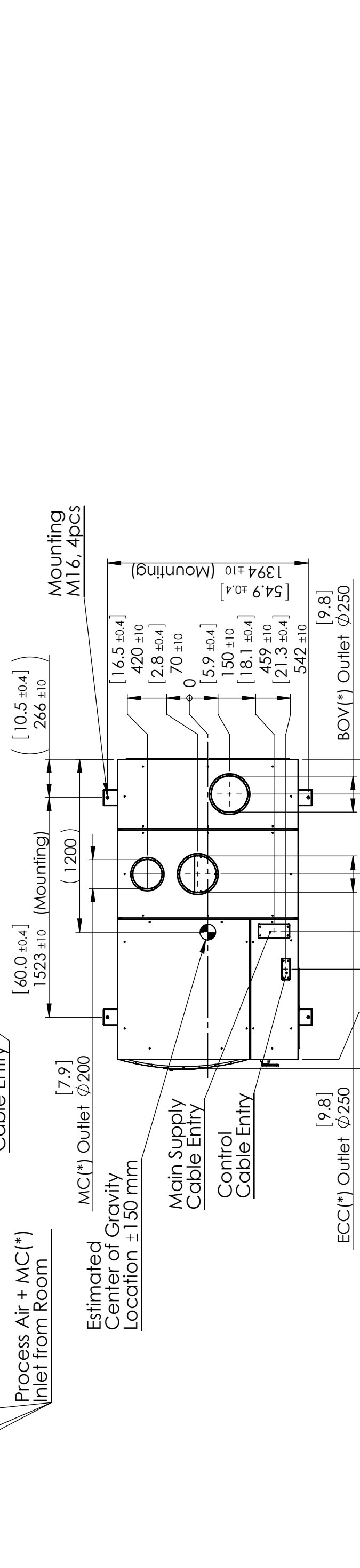
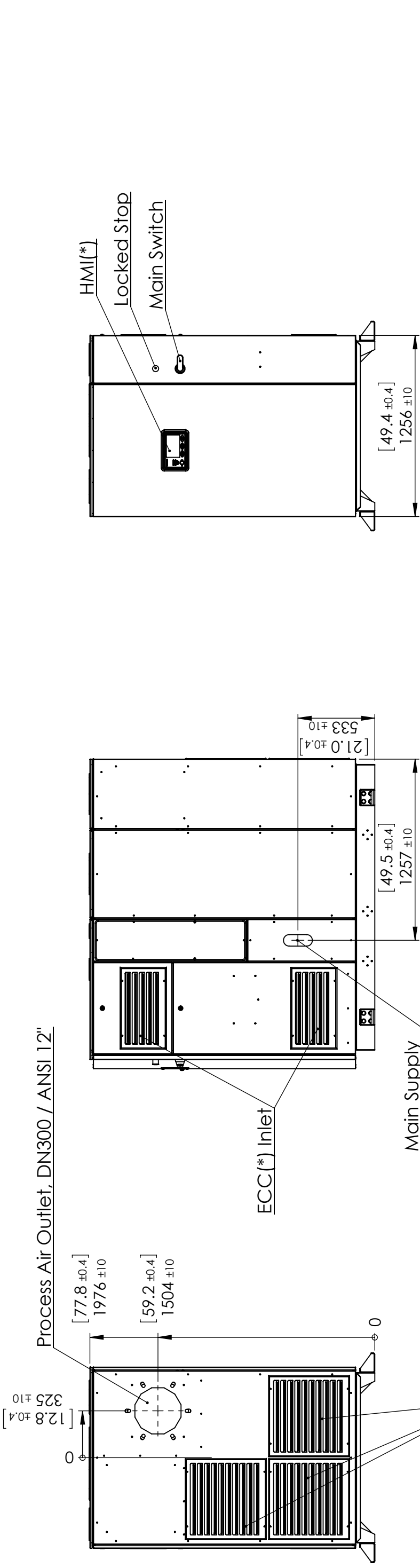
⁽²⁾ The maximum input current is calculated using the nominal voltage. The cable and fuse sizes are recommendations and based on the supply current and cables rated to 70 °C [158 °F].

4

3

2

1



REV	MODIFICATION	CHECKED	APPROVED
24-MAR-2015	A. Kangas	24-MAR-2015	A. Kangas
REPLACED BY		DESIGN GROUP	SPFIN
HST		-	-
20		ORIGINAL SCALE	1:28
-		DRAWN:	WT Transfer
-		CHECKED:	-
-		APPROVED:	-
DIMENSIONAL DRAWING		PART - No.	
Turbocompressor type ABS HST 20		1007	EN
HST103780		1/2	

* ECC = Electric Cabinet Cooling Air
 MC = Motor Cooling Air
 BOV = Blow Off Valve Air
 HMI = Human Machine Interface

SULZER CONFIDENTIAL		WEIGHT [kg]	
© SULZER Ltd (Date of Drawing)		~[2976 lb]	
All rights reserved. No part of this drawing may be reproduced, distributed or transmitted in any form or by any means, including photocopying and recording, without the express PRIOR written consent of SULZER Ltd.		1350 kg	
GENERAL TOLERANCES	FINISHING	MATERIAL	
-	-	-	-
DO NOT SCALE - IF IN DOUBT ASK			
MACHINING REGULATIONS SEE DRAWING STANDARDS.			

4

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2

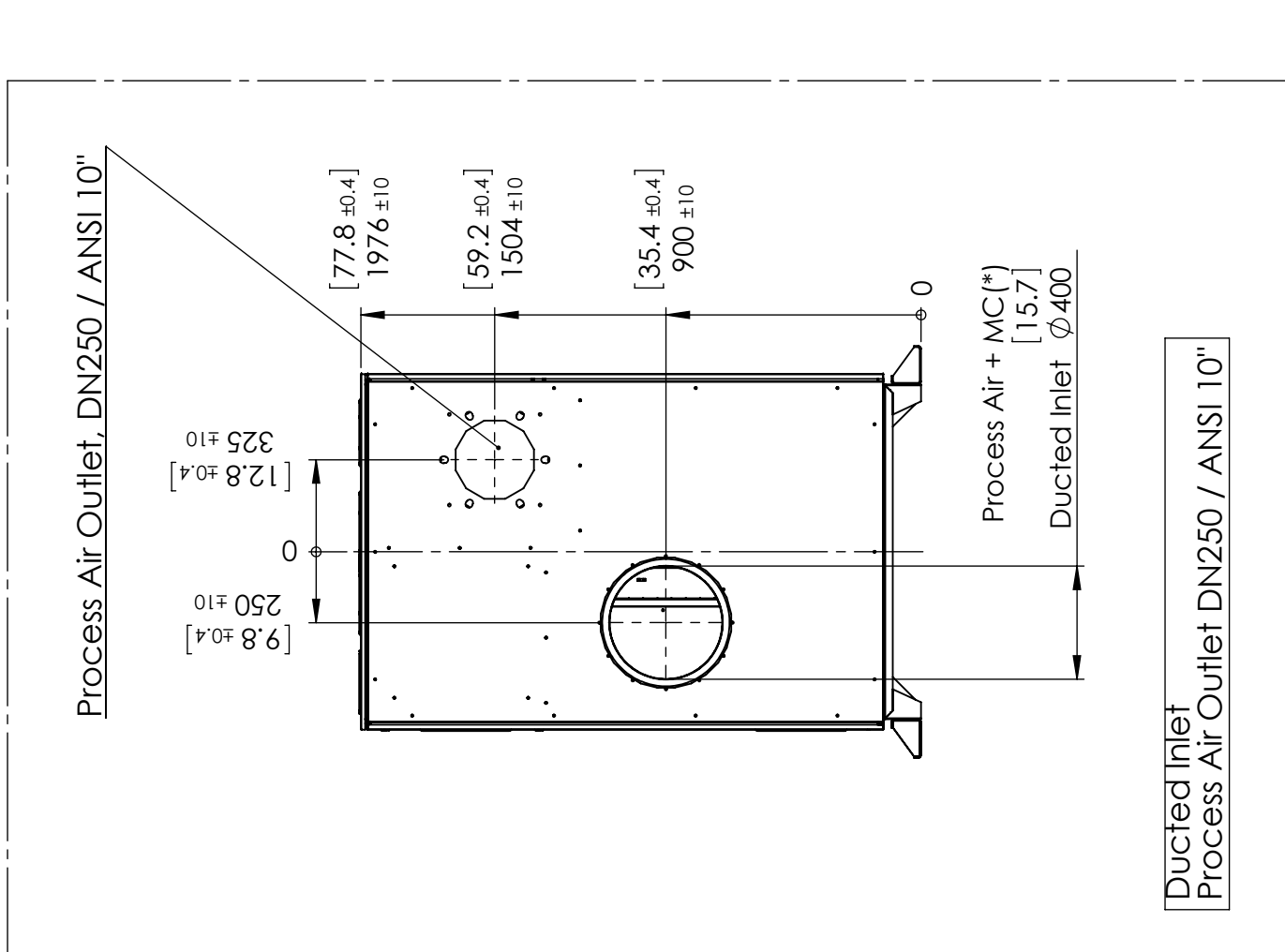
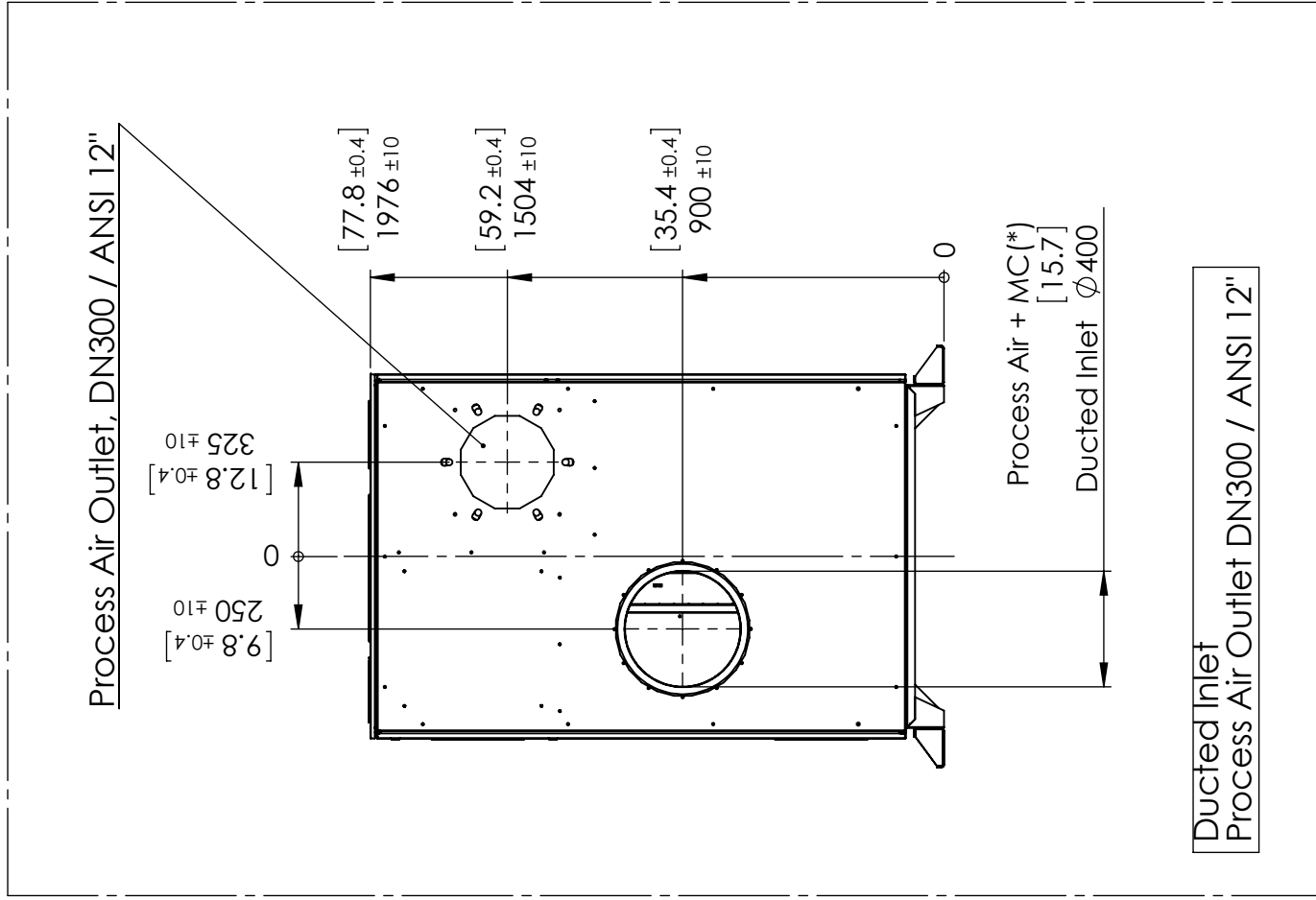
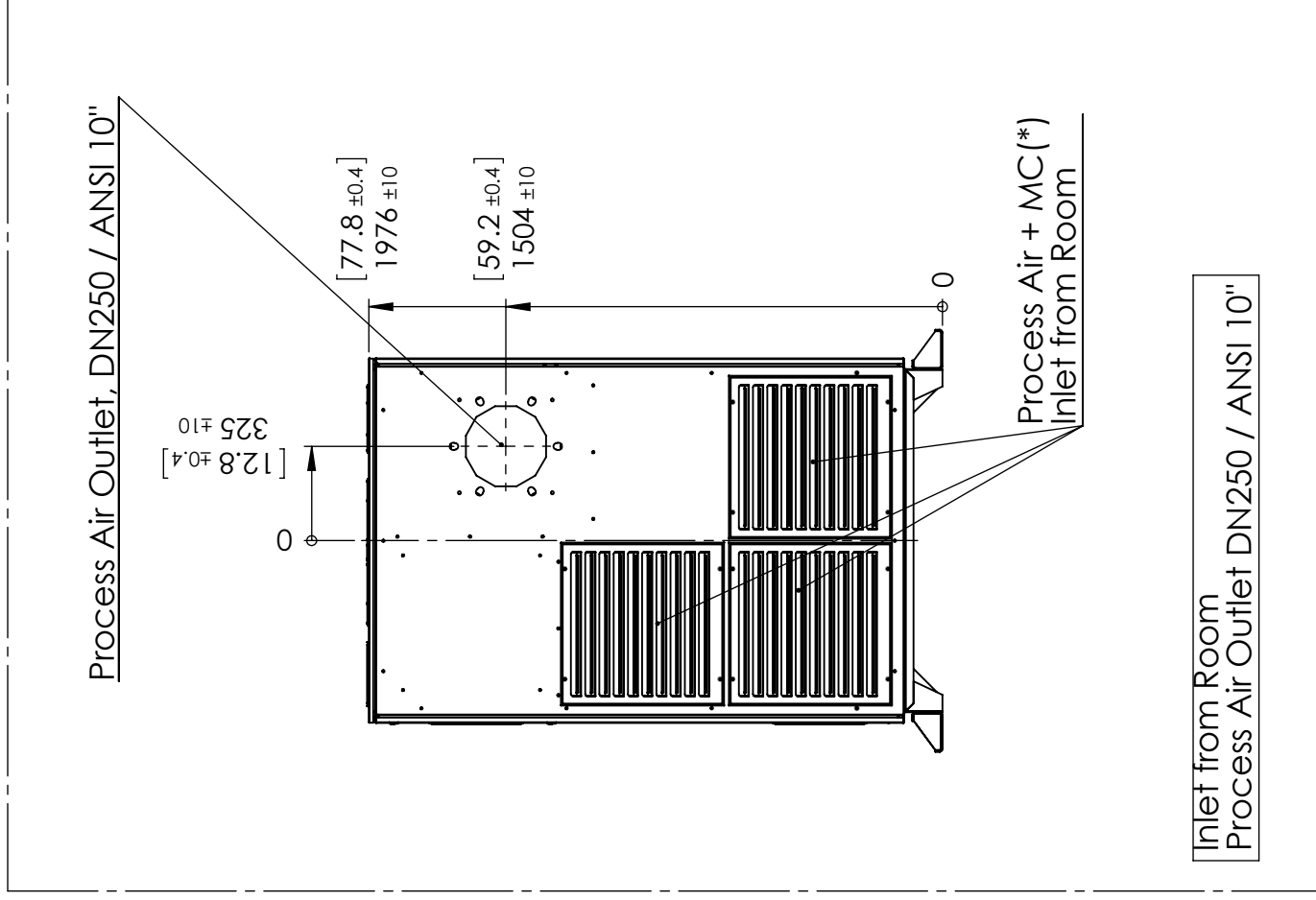
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2

3

4



* ECC = Electric Cabinet Cooling Air
 MC = Motor Cooling Air
 BOV = Blow Off Valve Air
 HMI = Human Machine Interface

SULZER CONFIDENTIAL
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 SIMILAR DWG. -
 MACHINING REGULATIONS SEE DRAWING STANDARDS.

DO NOT SCALE - IF IN DOUBT ASK

①	Length dim fixed				
	REV	MODIFICATION	No	DESIGN GROUP	
SEP. PARTS LIST		- SUBSTITUTE FOR		SPFIN	CAD - DRAWING
REPLACED BY		HST 20		ORIGINAL SCALE	1:25
HST 20		DIMENSIONAL DRAWING		DRAWN: WT Transfer	
-		Turbocompressor type ABS HST 20		CHECKED: -	
-		-		APPROVED: -	
-		-		-	
-		-		-	
PART - No.		1007 EN		HST103780	
2/2					

SULZER

1

2

3

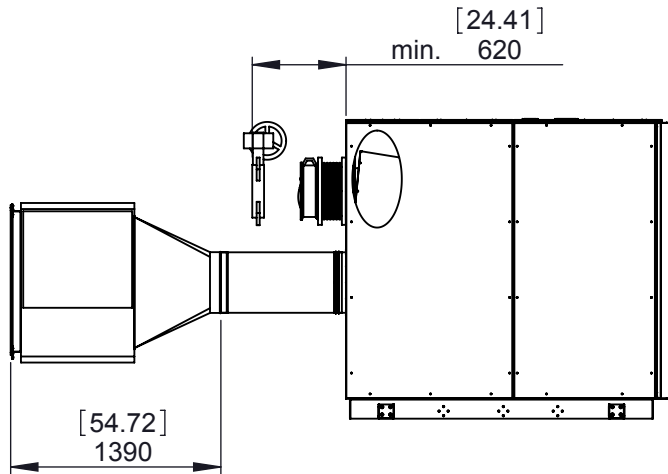
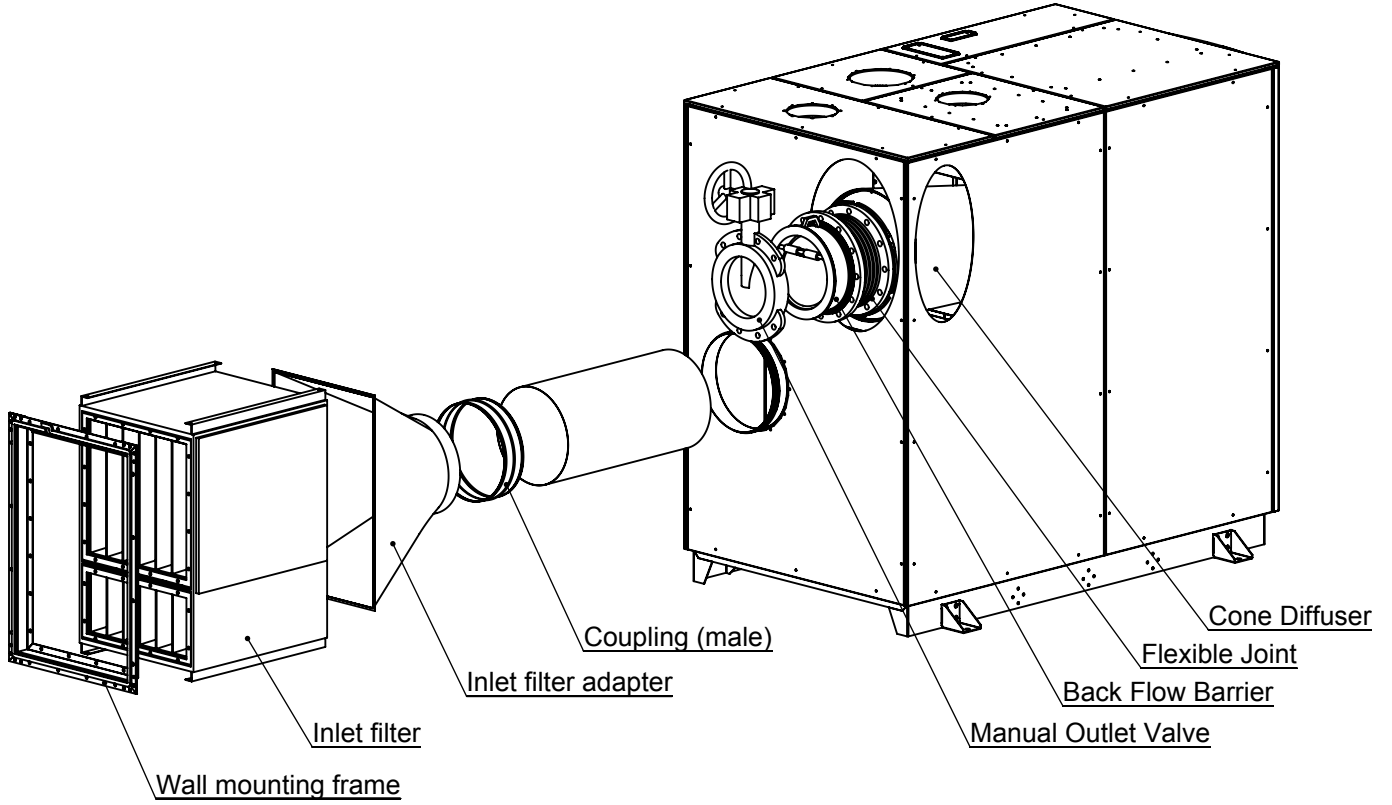
4

ABS turbocompressor HST 20

Ducted Inlet with External Filter

Layout Example

Code: 103810
 Scale: 1:30
 Revision: A
 Date: 28.9.2012
 Drawn: A.Kangas

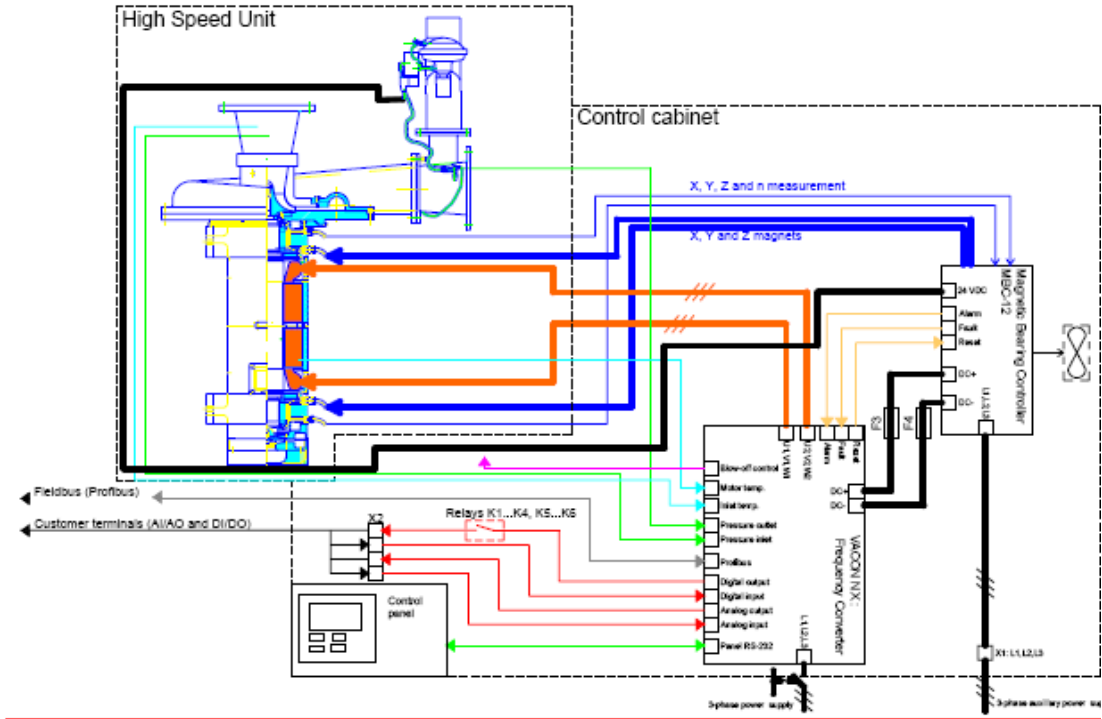


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mm

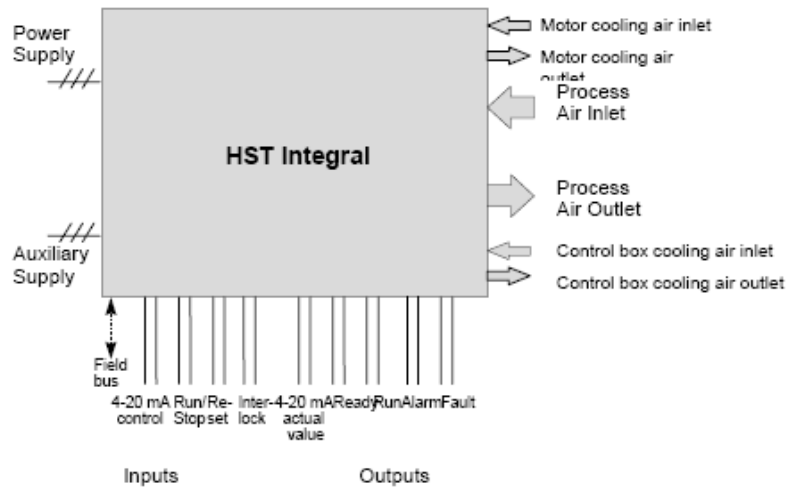
ABS turbocompressor accessories are applicable for use with ABS turbocompressors.

SHEET 1 / 1

Turbocompressor HST Control Schematic

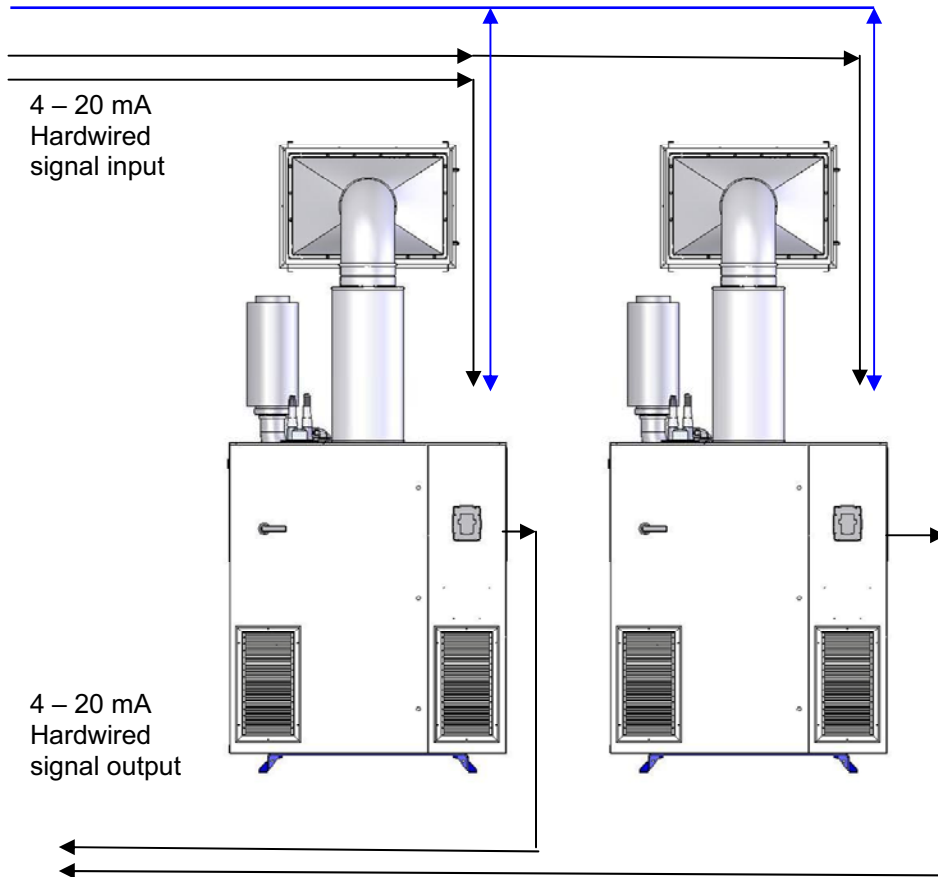


CONNECTIONS



Turbocompressor HST Communication Options without MCU

Modbus or Profibus
communication with plant system



Use with two or one turbocompressor(s)

November 3, 2004

HIGH SPEED COMPRESSOR TEST CODES

The high speed compressors developed by High Speed Tech Oy Ltd have been tested at Laboratory of Fluid Dynamics at Lappeenranta University of Technology and at HST Lappeenranta factory, where similar test loop facilities have been built.

There are no standard test codes applicable for integrated high speed compressors. Therefore, the test following test codes have been applied

- ISO 5389:1992 Turbocompressors
- VDI 2045:1993 Acceptance and Performance Tests on Turbo Compressors and Displacement Compressors
- ASME PTC 10 – 1974 / Reaffirmed 1986 Compressors and Exhausters

Main difference is the compact integration of the compressor and motor. As they can not be separated, the measurement of only the compressor shaft power is not possible and therefore unnecessary to follow within the various test codes.

The main quantities measured and investigated in the tests are:

- overall electric power
- pressure ratio of the compressor
- the capacity of the compressor

Power

The standards put a strong emphasis on the thermal equilibrium of the turbo compressor. The long measurement tests at LUT have shown that the overall power (which power is solely used in declaring the HST performance) reaches quickly a constant level, while the power balance between the motor and the drive (compressor) takes much longer time to be correctly measured (for example ASME PTC 10 requires minimum of 30 minutes between points).

The HST measurement routine allows a longer start time for the first measurement, but the following test points are reached within minutes. The measurement software informs the personnel as an adequate measurement point is achieved and a new valve position can be chosen.

Pressure ratio

The pressures are measured in the pressure measuring stations before and after the compressor. The locations of the four static taps, the distances of flow straightening and the method of the measurements are performed as defined in both PTC 10 and ISO 5389.

The capacity of the compressor

ISO 5389 states that the flow measurements are done according to ISO 5167, which acknowledges both the long radius and ISA 1932 nozzles. By comparison, the uncertainty coefficient of the ISA 1932 is lower than the long radius nozzle. The use of ISA 1932 at the inlet of the compressor enables us to make the flow measurements in almost constant conditions and improves further the reliability of the measurements.

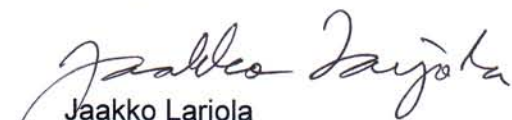
The ASME PTC 10 includes only the long radius nozzle, but states that under bilateral agreements, the interested parties can agree upon the type of metering device suited for the conditions and the




choice shall be stated in the test report. As the chosen device is ISA 1932 mentioned in the international standard, it is our understanding that ISA 1932 also fulfils the requirements of PTC 10.

The flow is measured in the inlet conditions and the only leakage of the machine is through a multi knife radial labyrinth seal between the base of the impeller and compressor base. Due to relative small pressure difference, this leakage is less than 1% and very difficult to measure. The ISO 5389 states that in these circumstances appropriate corrections shall be agreed between the manufacturer and purchaser. PTC 10 states that the capacity is the net rate of flow compressed and delivered. The HST margin covers this difference in measurements.

In Lappeenranta, November 3, 2004



Jaakko Larjola
Professor



Jari Backman
Professor



Warranty

HST Standard Two (2) Year

Manufacturer warrants the above referenced Sulzer brand equipment ("HST") (excluding replacement parts and filters) to be free from defects in workmanship and materials as follows:

The warranty period shall expire twenty four (24) months from the date of shipment of Products from Manufacturer to original end customer.

Products or parts thereof that are replaced or repaired under warranty during the original warranty period, shall be covered under this warranty until the expiration of the original warranty period or ninety (90) days from the date of such replacement or repair, whichever is later. In any event, such extended warranty period shall not exceed ninety (90) days after the expiration of the original warranty period.

The warranties stated above are contingent upon start-up of the equipment on site by an authorized Sulzer Service Technician, as verified by receipt of start-up reports completed and signed by an authorized Sulzer Service Technician.

If during the warranty period, any Products fail to meet the requirements set out in this warranty, the purchaser or end user shall give written notification to Manufacturer stating the reasons therefor. Upon receipt of prior written authorization from Manufacturer, Products shall either be repaired in place or transported to Manufacturer's authorized facility, prepaid, at purchaser or end-user's cost. Manufacturer's sole obligation shall be to repair, modify or replace Products or parts thereof, at Manufacturer's sole option. Products repaired at Manufacturer's authorized facility under this warranty will be returned with freight prepaid. Products must be repaired by an authorized Sulzer Service Technician for warranty coverage to be considered.

All protection features (such as fuses, motor and VFD over temperature, over pressure, shaft position, etc.) incorporated in the Products must be connected and operable for warranty coverage.

This warranty shall not apply to any Products or parts thereof which have been (i) subjected to misuse, misapplication, accident, alteration, neglect, failure to act in a timely manner to address alarms/warnings, or physical damage; (ii) installed, operated, and/or maintained in a manner which is contrary to Manufacturer's written instructions as it pertains to installation, operation and maintenance of the Products, including but without limitation to being operated without being connected to monitoring devices supplied with specific products for protection; (iii) used in an application other than the use for which it is intended as specified in Manufacturer's product literature; (iv) damaged due to a defective power supply, improper electrical protection, faulty repair, ordinary wear and tear, corrosion, erosion or chemical attack, an act of God, an act of war or by an act of terrorism; (v) damaged resulting from the use of accessory equipment not sold by Manufacturer or not approved by Manufacturer for use in connection with Manufacturer's products; or (vi) repaired or altered without Manufacturer's written consent.

This warranty does not cover costs for standard and/or scheduled maintenance that is performed, nor does it cover Manufacturer's parts that, by virtue of their operation, require replacement through normal wear (aka: Wear Parts), unless a defect in material or workmanship is determined by Manufacturer. Wear Parts are defined as air filters, batteries, VFD & MBC cooling fans and/or any items deemed necessary to perform and meet the requirements of normal maintenance on all Manufacturer's equipment.

Manufacturer shall not be liable for any special, indirect, consequential, or punitive damages, or profit loss of any kind. Major components not manufactured by the Manufacturer are covered by the original manufacturer's warranty in lieu of this warranty. In addition to any other special, indirect or consequential damages referenced above, Manufacturer shall not be responsible for travel expenses, rented (replacement) equipment, removal fees, installation fees, outside contractors fees, or unauthorized repair shop expenses.

This warranty shall extend only to the initial end user.

ALL OTHER WARRANTIES, CONDITIONS AND REPRESENTATIONS, EXPRESSED OR IMPLIED BY STATUTE, COMMON LAW OR OTHERWISE, IN RELATION TO THE SUPPLY OF THE PRODUCTS INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED TO THE EXTENT PERMITTED BY LAW.

*This warranty is applicable to Products supplied by Sulzer Pumps Solutions Inc. or Sulzer Pumps (Canada) Inc. for installation in the U.S.A. or Canada, unless specifically indicated otherwise in writing by Manufacturer.

NT 3102 MT 3~ Adaptive 465

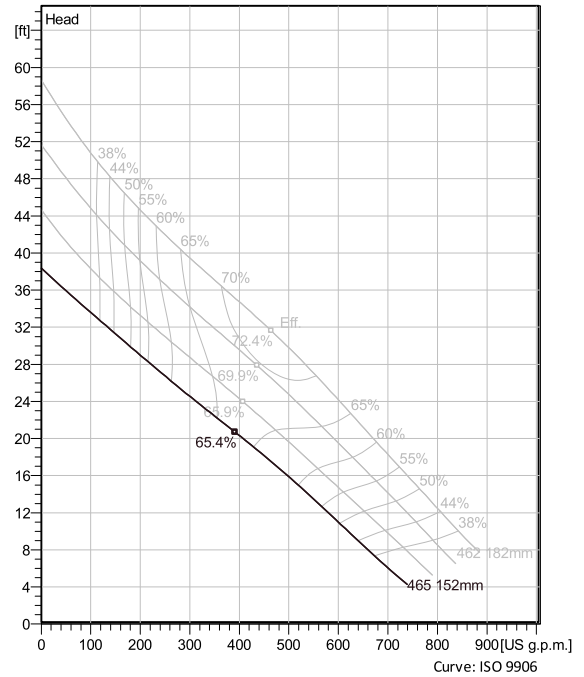
Patented self cleaning semi-open channel impeller, ideal for pumping in waste water applications. Possible to be upgraded with Guide-pin® for even better clogging resistance. Modular based design with high adaptation grade.



Technical specification



Curves according to: Water, pure [100%], 39.2 °F, 62.42 lb/ft³, 1.6891E-5 ft²/s



Configuration

Motor number N3102.070 18-11-4AL-D 3.7hp	Installation type T - Vertical Permanent, Dry
Impeller diameter 152 mm	Discharge diameter 3 15/16 inch

Pump information

Impeller diameter 152 mm
Discharge diameter 3 15/16 inch
Inlet diameter 100 mm
Maximum operating speed 1760 rpm
Number of blades 2

Materials

Impeller Hard-Iron™
Stator housing material Grey cast iron

Project
Block

Created by
Created on 1/8/2020

Last update

NT 3102 MT 3~ Adaptive 465

Technical specification



Motor - General

Motor number N3102.070 18-11-4AL-D 3.7hp	Phases 3~	Rated speed 1760 rpm	Rated power 3.7 hp
Approval FM	Number of poles 4	Rated current 5.4 A	Stator variant 1
Frequency 60 Hz	Rated voltage 460 V	Insulation class H	Type of Duty S1

Motor - Technical

Power factor - 1/1 Load 0.75	Motor efficiency - 1/1 Load 85.3 %	Total moment of inertia 0.612 lb ft ²	Starts per hour max. 30
Power factor - 3/4 Load 0.67	Motor efficiency - 3/4 Load 84.2 %	Starting current, direct starting 42 A	
Power factor - 1/2 Load 0.54	Motor efficiency - 1/2 Load 80.8 %	Starting current, star-delta 14 A	

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Performance curve

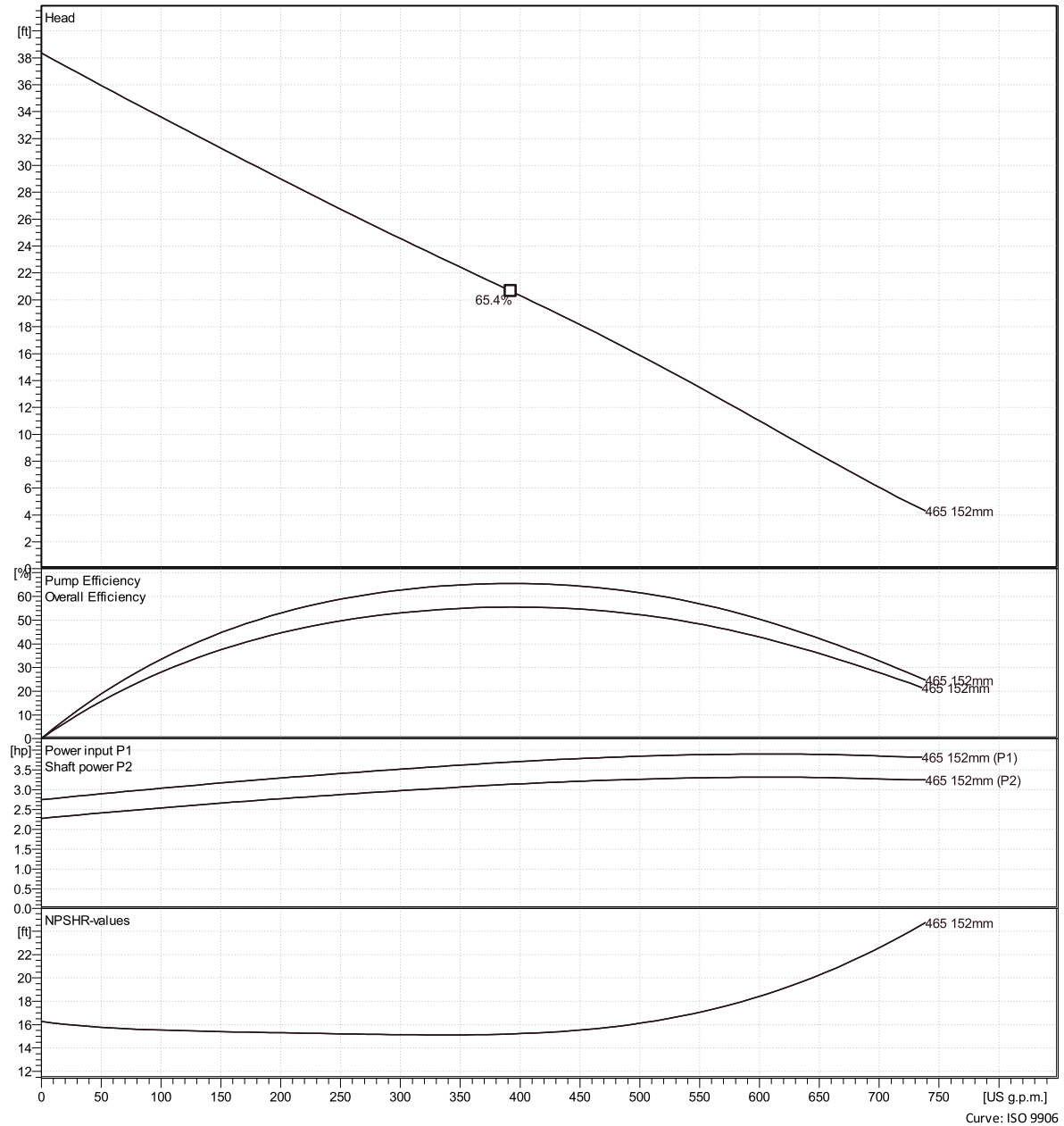


Duty point

Flow

Head

Curves according to: Water, pure [100%], 39.2 °F, 62.42 lb/ft³, 1.6891E-5 ft²/s



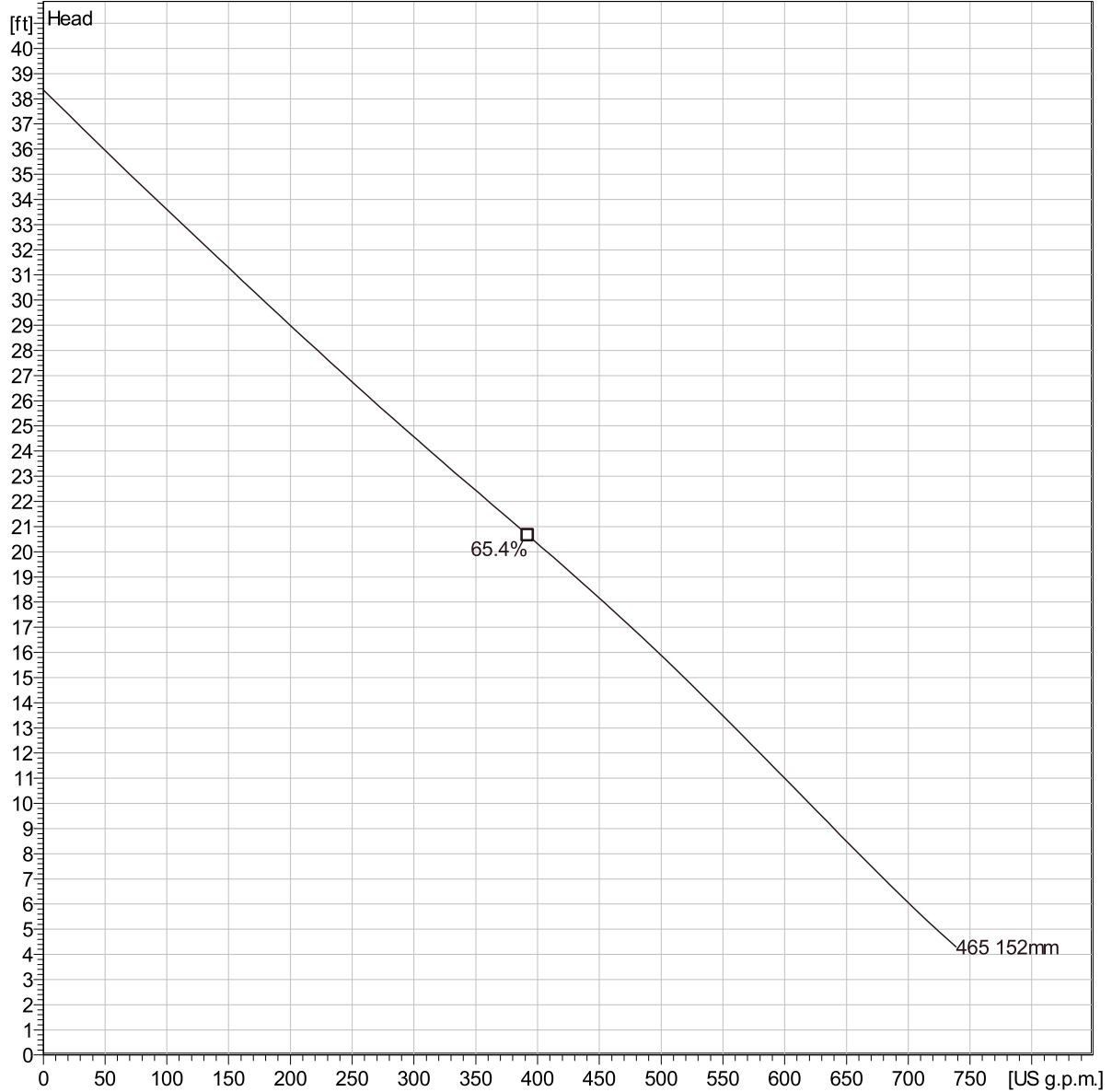
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NT 3102 MT 3~ Adaptive 465

Duty Analysis



Curves according to: Water, pure [100%], 39.2 °F, 62.42 lb/ft³, 1.6891E-5 ft²/s



Curve: ISO 9906

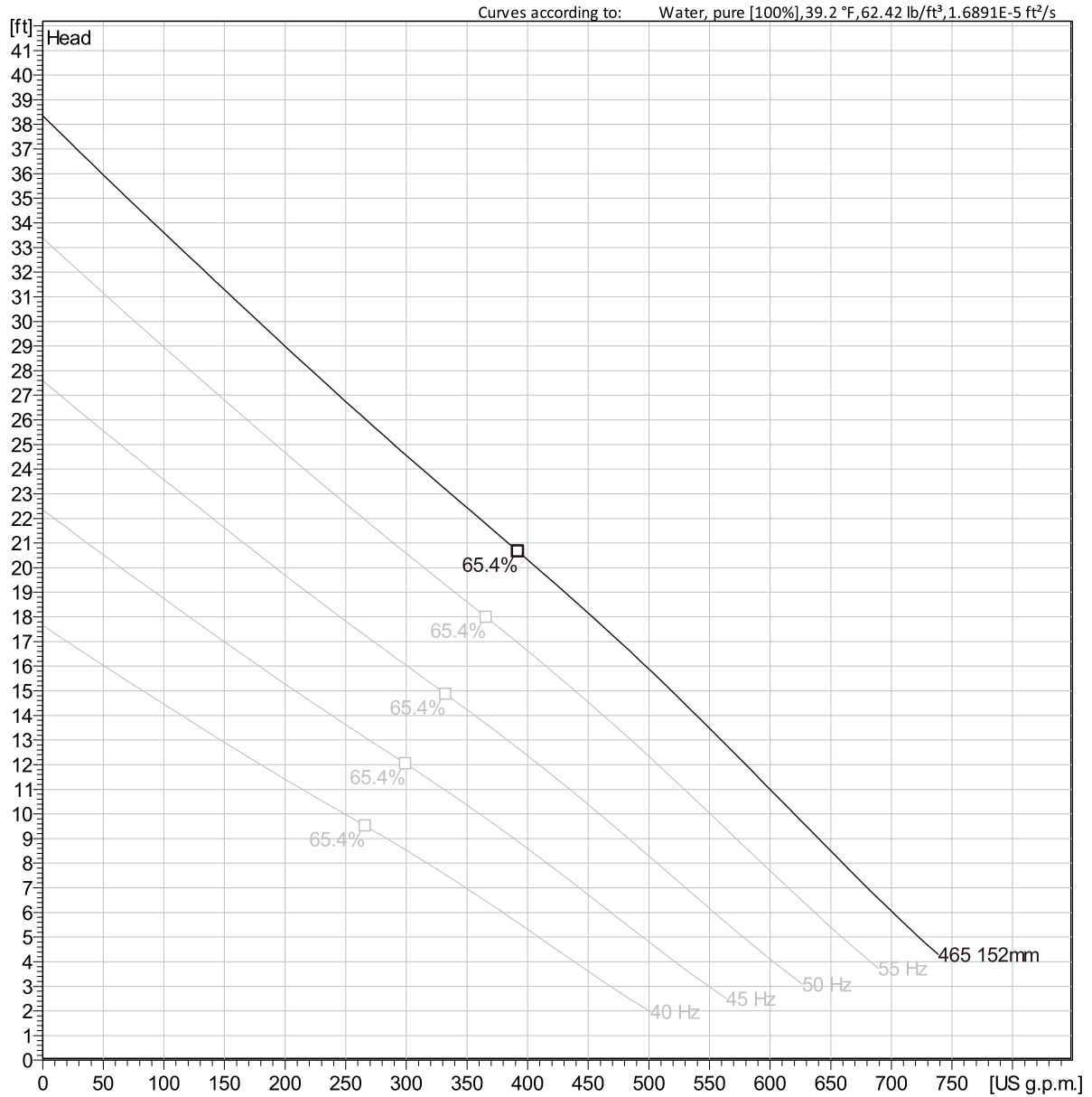
Operating characteristics

Pumps/Systems	Flow	Head	Shaft power	Flow	Head	Shaft power	Hydr.eff.	Specific energy	NPSHr
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NT 3102 MT 3~ Adaptive 465

VFD Analysis



Operating Characteristics

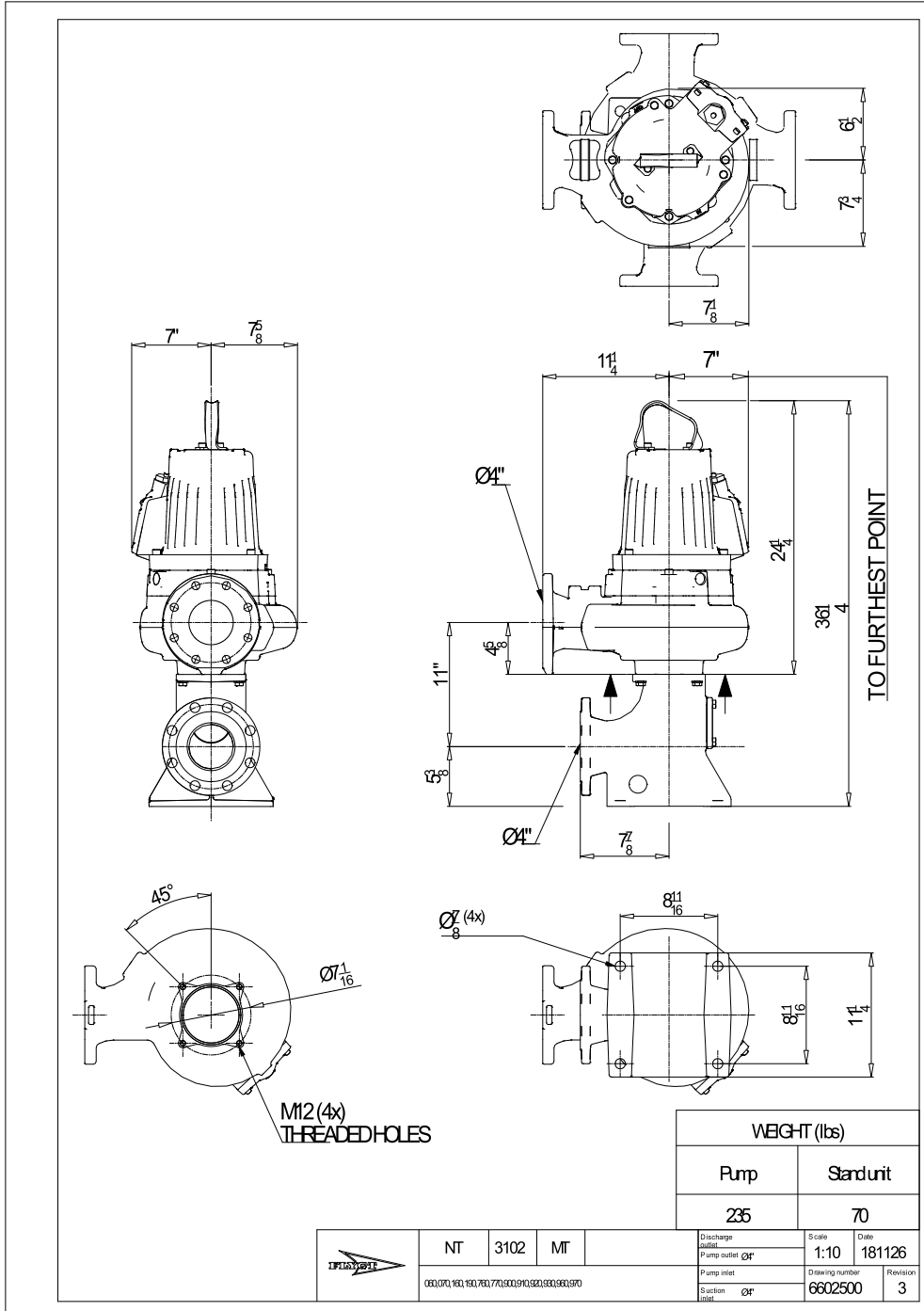
Pumps/Systems Frequency Flow Head Shaft power Flow Head Shaft power Hydr.eff. Specific energy NPSHr

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Curve: ISO 9906

NT 3102 MT 3~ Adaptive 465

Dimensional Drawing



Project	Created by	Last update
Block	Created on 1/8/2020	

UNISON SOLUTIONS, INC. CERTIFICATIONS

- ASME Certification Number (U-Stamp) - 37,381
- ASME Certification Number (R-Stamp) - R7415
- UL Certification Number - 20110405-E255550

EQUIPMENT/SUB-SYSTEMS

GAS COMPRESSION/MOISTURE REMOVAL SYSTEM

- Gas Compressor Inlet Moisture/Particulate Filter
- Pre-cooler
- Gas Compressor
- Oil/Gas Separator
- Oil Cooler
- Oil Particulate Filter
- Gas to Gas Heat Exchanger
- Gas to Glycol Heat Exchanger
- Moisture Separator
- Gas Recirculation
- Final Particulate Filter
- Skid Base

CO₂ REMOVAL SYSTEM

- Double Pass Membrane CO₂ Removal System
- Product Gas Analyzer
- Product Gas Flow Meter

GLYCOL CHILLER

- Glycol Chiller
- Initial fill of Propylene Glycol/Water Mixture

CONTROL SYSTEM

- Gas Conditioning System Control Panel
- Transformer

DESIGN CONDITIONS**SITE INFORMATION**

- Minimum Ambient Temperature	35°F
- Maximum Ambient Temperature	110°F
- Site Elevation	<1,000' AMSL

SYSTEM REQUIREMENTS

- Minimum Gas Flow	50 scfm
- Maximum Gas Flow	100 scfm

INLET GAS CONDITIONS

- Inlet Gas Pressure	6-14"WC
- Minimum Inlet Gas Temperature	50°F
- Maximum Inlet Gas Temperature	100°F
- Relative Humidity	100%
- Methane (CH ₄)	60%
- Carbon Dioxide (CO ₂)	39%
- Nitrogen (N ₂)	<0.5%
- Oxygen (O ₂)	<0.22%
- Hydrogen Sulfide (H ₂ S)	Unknown
- VOC/Siloxanes	Unknown

RNG DELIVERY CONDITIONS

- Discharge Gas Pressure	130-150 psig
- Higher Heating Value	970-1,150 Btu/scf
- Wobbe Number	1279-1385
- Carbon Dioxide (CO ₂)	≤3.0%
- Oxygen (O ₂)	≤0.2%
- Total Inerts	≤4%
- Maximum Hydrogen Sulfide	≤0.25 gr/Cscf
- Water Content	≤7 lb/MMscf
- Particulate Removal	Free of Dust, dirt, gum, and other solids
- Condensed Liquids	Free of water & hydrocarbons as liquid
- Discharge Gas Temperature	50-105°F
- Methane Recovery	96%

SITE REQUIREMENTS

ELECTRICAL CLASSIFICATION

- NEC Class I, Division 1 Group D Areas
 - Hydrogen Sulfide Removal System
 - Gas Upgrading System
 - Gas Compression/Moisture Removal System
 - CO₂ Removal System
- Unclassified Electrical Areas
 - Glycol Chiller
 - Gas Upgrading System Control Panel
 - Transformer
 - Gas Analyzer

EQUIPMENT MOUNTING

- Skid Mounted
 - Gas Upgrading System
 - Gas Compression/Moisture Removal System
 - Siloxane/VOC Removal System
 - CO₂ Removal System
- Standalone
 - Hydrogen Sulfide Removal System
 - Glycol Chiller
 - Gas Upgrading System Control Panel
 - Transformer

EQUIPMENT/SUB-SYSTEM DETAILS

HYDROGEN SULFIDE REMOVAL SYSTEM

- (1) Hydrogen Sulfide Removal Media Vessel
 - 8'Ø x 12' straight side
 - 8' of media bed depth
 - Rated for 5psig pressure and 1psig vacuum
 - Materials of construction shall be 304L stainless steel
 - 150# ANSI B16.5 side inlet and outlet connections
 - Flanged and dished top and bottom heads
 - Vessel shall be free-standing on four 304L stainless steel legs
 - Vessel equipped with a 36" top manway

- Vessel equipped with a 30" side manway
 - Internal supports and grating for media
 - Pressure/Vacuum relief valve included
 - Two top vents with stainless steel ball valves
 - Bottom manual condensate drain with stainless steel ball valves
 - 4" Inlet and outlet spool pipes and valves provided.
- Work Platform and Ladder
 - Work platform shall be welded carbon steel construction with satin black powder coat finish
 - Ladder shall be aluminum construction
 - Initial Charge of H₂S Removal Media
 - The initial charge of H₂S Removal media for each Hydrogen Sulfide Removal Media Vessel will be provided.
 - H₂S Removal to be loaded into Hydrogen Sulfide Removal Vessels by INSTALLATION CONTRACTOR
 - Initial charge of media consists of 8, 2,200-pound super sacks of media per vessel for a total of 17,600 pounds of media

GAS COMPRESSION/MOISTURE REMOVAL SYSTEM

- Gas Compressor Inlet Moisture/Particulate Filter
 - Mounted upstream of the Gas Compressor
 - 99% removal of 3micron and larger particulates and liquid droplets
 - Materials of construction shall be 304L stainless steel
 - 150# ANSI B16.5 side inlet and outlet connections
 - Cleanable polypropylene structured mesh element
 - Differential pressure gauge across the filter element
 - Sight glass for liquid level indication
 - Level switches above the condensate drain to warn of failure
 - Bottom drain with strainer, condensate pump, check valve, manual bypass and piping
- Pre-cooler
 - Within the heat exchanger the gas will be cooled to 50°F
 - Gas to Glycol fin/tube core
 - Materials of construction shall be aluminum fins on 304L stainless steel tubes for the core, mounted in a 304L stainless steel housing
 - 150# ANSI B16.5 inlet and outlet connections
- Gas Compressor
 - One Oil Flooded Twin Screw Compressor

- Direct drive 75Hp, 480V/3Ph/60Hz electric motor
 - All gas and oil components other than the compressor head shall be constructed of stainless steel and/or aluminum.
 - Gas inlet and discharge flex connectors
 - Gas inlet check valve
 - Discharge pressure safety valve
 - Oil handling system will include an oil handling reservoir, coalescing filter, pressure safety valve, oil cooler, three-way thermal bypass valve and an oil particulate filter.
 - Initial fill of oil for the Gas Compressor system will be provided
- Oil/Gas Separator
- ASME Section VIII, Division 1 code stamped
 - Materials of construction shall be 304L stainless steel
 - ANSI B16.5 inlet and outlet connections
 - Discharge check valve
- Oil Cooler
- Air to oil fin/tube core
 - Materials of construction shall be aluminum fins and tubes
 - Flange connections
 - 480V/3Ph/60Hz EXP electric motor
- Oil Particulate Filter
- ASME Section VIII, Division 1 code stamped
 - Materials of construction shall be 304L stainless steel
 - 150# ANSI B16.5 inlet and outlet connections
 - Replaceable element
- Gas to Gas Heat Exchanger
- Plate and frame type heat exchanger
 - Materials of construction shall be 316L stainless steel plates with Viton gaskets
 - ANSI B16.5 inlet and outlet connections
- Gas to Glycol Heat Exchanger
- Plate and frame type heat exchanger
 - Materials of construction shall be 316L stainless steel plates with Viton gaskets
 - ANSI B16.5 inlet and outlet connections
- Moisture Separator
- Uni-Flow Model
 - ASME Section VIII, Division 1 code stamped

- Materials of construction shall be 304L stainless steel
- ANSI B16.5 inlet and outlet connections
- Centrifugal style with no element to be cleaned or changed
- Integral level switched for drain control
- Bottom drain with strainer, solenoid valve, check valve, manual bypass and piping

- Gas Recirculation

- Backpressure regulator shall be provided to allow excess gas to flow from the discharge of the system back to the inlet of the Gas Compressor.

- CO₂ Removal System

- Two stage membrane CO₂ Removal System
- Mounted downstream of the Siloxane/VOC Removal System
- Materials of construction shall be 304L stainless steel for filter housing and cartridge style membrane element
- ASME Section VIII stamped membrane housings
- Manual isolation valves on all membranes
- Modulating valves for pressure control
- Reject Gas Line to the Flare with Actuated Valve (Flare supplied by others)
- Three Gas Analyzer (CO₂, CH₄, O₂)
- Adjustable pressure reducing valve to flare

- Skid Base

- Welded carbon steel construction with satin black powder-coat finish
- All components mounted, piped and wired on skid base
- 24V and 120V electrical components wired to one of two junction boxes on edge of skid
- INSTALLATION CONTRACTOR to provide conduit and wiring to 480V components
- Conduit shall be rigid aluminum
- Condensate drains piped to edge of the skid base. Drains to be routed to floor drain by INSTALLATION CONTRACTOR.

GLYCOL CHILLER

- Glycol Chiller (Remote Mounted)

- Sized for the process heat load
- Suitable for outdoor installation
- Refrigeration System
 - One refrigeration circuit
 - One compressor sized for 100% capacity
 - Chiller capacity: 25% to 100% of rated capacity
 - EC motor driven condenser fans

- Aluminum micro-channel air cooled condenser
- 316L stainless steel evaporator
- R410a refrigerant. R-410a is an HFC refrigerant with 0 ODP
- Refrigeration circuit has sealed core filter drier, liquid line solenoid valve, liquid line shut-off valve, and sight glass/moisture indicator
- Electronic expansion valve
- Glycol Chiller shall be factory tested and shipped with complete refrigerant charge
- Glycol Circulation
 - Single circulation pump sized for 100% capacity
 - Stainless steel end suction centrifugal pump
 - TEFC Pump Motor
 - Pump isolation valves on inlet and outlet
 - Pump discharge check valves
 - Glycol reservoir is a 304 stainless steel closed tank
 - Glycol piping is copper with anti-corrosion coating
 - Armaflex insulation
 - Glycol Chiller to utilize propylene glycol/water mix
 - Initial fill of Propylene glycol will be provided
- Support Structure
 - G90 galvanized steel member frame
 - Powder-coated carbon steel cover panels
 - All components mounted, piped and wired on skid
- Glycol Chiller Control Panel
 - UL Type 4
 - UL 508A Listed Industrial Control Panel
 - Painted carbon steel
 - 480V/3Ph/60Hz feed will be required
 - 480V disconnect
 - Microprocessor based controller with full text LCD display
 - 480VAC to 24VAC transformer

CONTROL SYSTEM

- Gas Conditioning System Control Panel
 - Enclosure
 - UL Type 4
 - UL 508A Listed Industrial Control Panel
 - Painted carbon steel
 - Outdoor Location, out of direct sunlight
 - Thermal Management
 - Air Conditioner
 - Power Distribution
 - Fused Disconnect
 - 480V/3Ph/60Hz feed required
 - 35kA Short Circuit Current Rating
 - Over current and branch circuit protection via fuses
 - 480VAC field wiring to terminate at the component or terminal strips inside control panel
 - Surge Suppression
 - 480VAC Transient Voltage Surge Suppressor
 - 120VAC Surge Filter
 - Motor Control
 - (1) 75Hp rated 6 pulse VFD for Compressor Motor
 - (1) 2Hp rated Motor Starter Overload for Oil Cooler Motor
 - Programmable Logic Controller
 - Allen Bradley
 - Compact Logix PLC and I/O
 - Native Allen Bradley Ethernet IP data network
 - Human Machine Interface
 - Proface PFXGP4601TAD
 - TFT Color LCD Display
 - 12" diagonal
 - 800 x 600 pixels
 - Instrument wiring to terminate at terminal strips inside Control Panel
- Transformer
 - 3 kVA
 - 480VAC to 120VAC
 - NEMA 3R; Painted carbon steel

INSTRUMENTATION

- All instrumentation provided will be designed for gas service and rated for use in a NEC Class I, Division 1 Group D area.
- Hydrogen Sulfide Removal System Instrumentation
 - Inlet Pressure Transmitter
- Gas Compression/Moisture Removal System Instrumentation
 - Inlet Pressure Transmitter

- Level Switches at each Condensate Drain
- Level Indicators at each Condensate Drain
- Temperature Transmitter at each Temperature Change Point
- Temperature Transmitter to Monitor Glycol Temperature
- Bi-metal Thermometers at each Temperature Change Point
- Gas Compressor Discharge Pressure Transmitter
- Delivery Pressure Transmitter
- CO₂ Removal System Instrumentation
 - Product Gas Pressure Transmitter
 - Product Gas Analyzer
 - Product Gas Flow Meter
 - Off-Gas Flow Meter
 - Off-Gas Pressure Transmitter

PIPING

- Pipe will be SA-312 TP304/304L Weld Pipe, minimum Schedule 10S. Threaded pipe shall be minimum Schedule 40S.
- Flange connections will be ANSI B16.5, SA-182 F304/304L Class 150.
- Pipe welding will follow ASME B31.3 Process Piping. Welded pipe will be visually inspected and pressure tested.
- Gaskets will be 1/16" nitrile bound non-asbestos ring gaskets.

VALVES

- Ball Valves
 - Stainless steel with PTFE or RTFE seat.
 - Valves will be full port.
- Butterfly Valves
 - Lug style iron body with stainless steel disc and stem and FKM seat.
- Check Valves
 - Will be one of 2 styles; ball or dual-door.
 - Ball check valves shall be stainless steel with RTFE ball.
 - Dual-door check valves shall be wafer style body, material shall be aluminum and/or stainless steel with an FKM seat.
- Globe Valves
 - Stainless steel with PTFE packing

FASTENERS

- Fasteners shall be ASTM F593 304 Stainless Steel

EASY INSTALLATION KIT (Option Below)

- Control Panel, Gas Analyzer, and Glycol Chiller skid mounted
- Welded carbon steel construction with satin black powder-coat finish
- Conduit shall be rigid aluminum

- Piping and wiring skid (bridge) for space separation between classified and non-classified areas
- Glycol piping installed in bridge is pre-insulated with flexible connections for field installation
- All conduit and wiring installed on bridge with flexes for field installation. All wiring is pre-labeled for landing in assigned terminal blocks.
- Bridge bolts to the Gas Upgrading Skid, Chiller Skid then bolts to the Bridge

SUBMITTALS

- Quantity: (3) copies of 3 ring binders and (1) electronic CD copy
- Shop Drawings and Product Data will be provided in sufficient detail to confirm compliance with the requirements for the project. Shop Drawings and Product Data will be provided in a complete submittal package.
- Shop Drawings
 - Installation drawings and specifically prepared technical data, including design capacities will be provided.
 - Specifically prepared wiring diagrams unless standard wiring diagrams are submitted with product data will be provided.
 - Written description of operation will be provided.
- Product Data
 - Catalog cuts and product specifications for each product specified will be provided.
 - Standard wiring diagrams unless wiring diagrams are specifically prepared and submitted with Shop Drawings will be provided.

FACTORY TESTING

- The System will be tested on ambient air at Unison's facility prior to shipment.
- The CUSTOMER is allowed to witness the testing and Unison will inform the customer (2) weeks prior to anticipated testing date so customer can make travel arrangements.

OPERATION & MAINTENANCE MANUALS

- Quantity: (3) copies of 3 ring binders and (1) electronic CD copy
- After shipment the Gas Conditioning System will be provided with a specifically prepared Operation & Maintenance Manuals. The information provided includes a system overview, operator interface, start-up/shut down procedures, communications, alarms procedures, maintenance overview, mechanical component spec sheets and electrical component spec sheets.

MANUFACTURER'S FIELD SERVICES

START-UP SERVICES

- Includes fifteen (15) non-consecutive, 8-hour days, three trips for two Unison Technicians onsite with travel and expenses included.

MAINTENANCE

- Hydrogen Sulfide Removal System

- Replace Foam Pad
- Replace Hydrogen Sulfide Media
- Estimated Cost = \$19,500.00*
- Estimated Media Life = 275 days @ 1,000ppm
- *Labor for change out, disposal and shipping of media not included*

- Gas Compression/Moisture Removal System

- Clean Gas Compressor Inlet Moisture/Particulate Filter
- Clean/Replace Oil Particulate Filter
- Change Oil Filter
- Change Compressor Oil
- Clean Oil Heat Exchanger
- Clean Glycol Chiller Condenser
- Test Glycol for Freeze Point
- Estimated Cost = \$5,000*every 12 months
- *Technician Labor and travel expenses not included*

ESTIMATED ELECTRICAL PARASITIC

- Electrical Parasitic

- Gas Compressor Motor = 76 kW
- Oil Cooler Motor = 2 kW
- Glycol Chiller = 30 kW
- Controls & Auxiliary Equipment = 4 kW
- Total = 112 kW (Full Load)
- Total = 90 kW (Average Run Load)



20FT 500kW/1150kWh BESS Series

Product Specification for Utility Scale Application

Version: 1.7

Energport Inc.

AMENDMENT RECORDS

Version	Description	Date	Author	Approval
V1.0	Initial	2017-07-15	JK	JC
V1.1	Update PCS spec	2017-09-05	JK	JC
V1.2	Use 27Ah Cell	2018-05-02	JK	JC
V1.3	Update configuration table	2018-06-02	JK	JC
V1.4	Optimize content and update some figure	2018-06-14	JK	JC
V1.5	Update 20ft container configuration diagram	2019-07-17	JK	JC
V1.6	Update fire suppression section	2019-11-07	JK	JC

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Abbreviations

Term	Definition
AC	Alternating Current
Ep	Energport Inc
BESS	Battery Energy Storage System
BMS	Battery Management System
CSC	Cell Supervisor Circuit
DC	Direct Current
DCIR	Direct Current Internal Resistance
DOD	Depth of Discharge
EMS	Energy Management System
EOL	End of Life
LFP	Lithium Ferro-phosphate
PCS	Power Conversion System
EMS-Master	Energy Management System Master
EMS-Slaver	Energy Management System Slaver
SBMU	String Battery Management Unit
SOC	State of Charge
TBD	To Be Determined

1 Scope

The document describes the function and specifications of the BESS consisting of the Battery system provided by Ep. To operate the product in the correct manner, the relevant parameters should be carefully defined and the instructions followed. It is necessary to point out here that Ep reserves the rights to modify the product specifications at any time without notice.

2 Product Specification Introduction

2.1 Introduction

Product Model: L5001100 - 500kW/1150kWh

Product Purpose: Used as for grid-tie energy storage application

The configurable BESS is composed of DC Block and the Converter Block. The DC Block consists of one Battery systems consisting of multiple battery strings/cabinets. It adopts the advanced battery management system (BMS) with high quality monitoring and control functions to ensure that the whole battery system operates safety, reliably and efficiently. The Ep BESS is highly flexible which can be scaled to the various energy and power requirements from the customer.

The Converter Block consists of one configurable Bi-directional Inverter.

EMS will manage and control the whole battery system for demand charge management, PV Integration / Self-Consumption, TOU Peak Shaving and Microgrid / Backup Power applications.

2.2 BESS system single line diagram

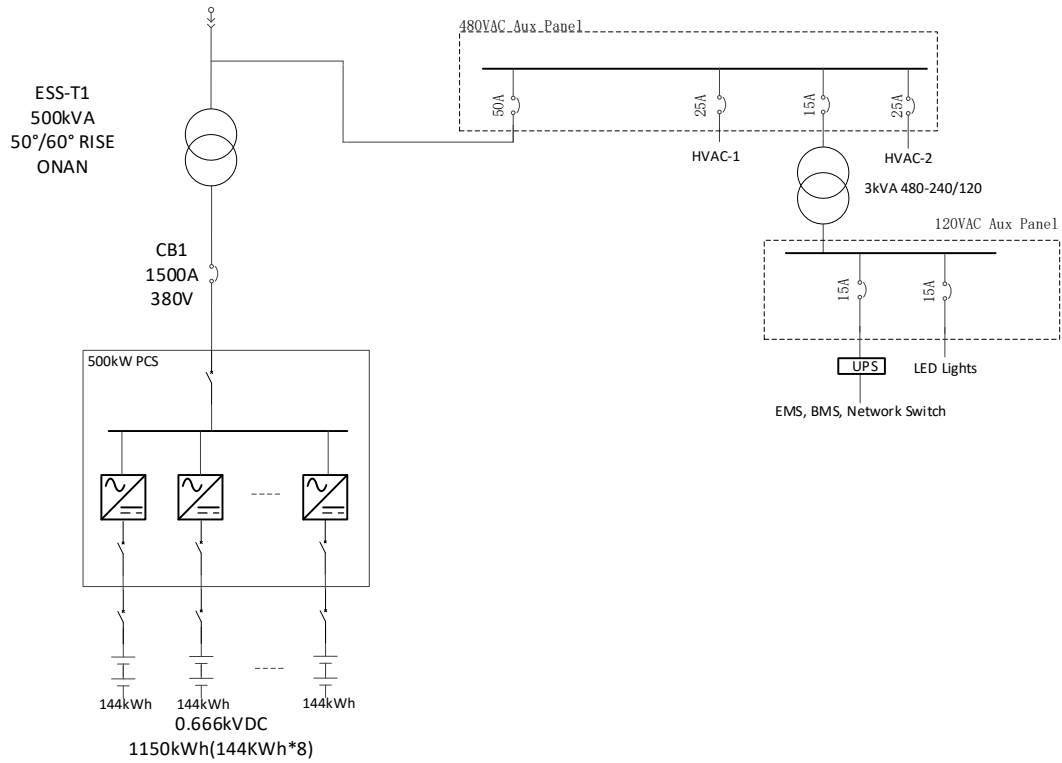


Figure 1 BESS single line diagram

The BESS consists of 8 battery strings and one PCS with 8 branches.

2.3 BESS Specifications

2.3.1 Specifications of BESS

The BESS specifications are shown as below.

No.	Item	Parameters	
1	Total energy	1150kWh	
2	Rated Voltage/Capacity	666VDC	
3	Operating Voltage	582VDC -728VDC	
4	Stated Energy	1150kWh	
5	SOC Operating Range	0%-100%	5%-95% Recommended
6	Maximum Continuous Charge Power	500kW	0.5C
7	Maximum Continuous Discharge Power	500kW	0.5C
8	Battery Round Trip Efficiency	95%	
9	Config	Cell	3.2VDC/27Ah
		Module	6.4VDC/216Ah
		Tray	51.2VDC/216Ah

		String	666VDC/216Ah	144kWh string
		System	666VDC/1440Ah	8 parallel strings
10	Ambient Temperature		25°C±5°C	
11	Operating Temperature		Charging:0-55°C Discharging: -20°C-55°C	High temperature (>45°C) operation would reduce BESS and cell life.
12	Storage Temperature Range		-30°C-60°C	Recommended 25°C
13	Thermal Management		Automatic air Cooling	
15	Altitude		≤3000m	>3000m, need to reduce power use
16	Service Life		≥3500 Cycles	@25°C,0.25C/0.25C,100%DOD, 80%EOL
17	Communication		LAN, RS485	
18	Balance		Passive	
19	Rated AC Output Power		500kW	
20	PCS	Rated AC Voltage	480V three phase	
21		Rated Frequency	60Hz	
22		AC Max Current	600A	
23		PCS Efficiency	98.2%	
24	System Round Trip Efficiency		89%	
25	Size		20'x8'x8'	20FT Container
26	Weight		18 tons / 40,000 lbs	

3 Battery String

Each battery string consists of 13 battery trays, 1 main control trays.

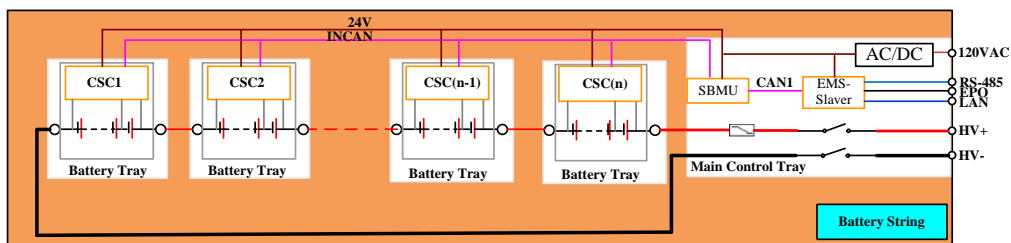
Battery tray: Each battery tray consists of up to 8 modules in series, and it includes cells, wire harness, DC cables and one CSC.

Main control tray: Main control box is the main control unit of the battery string/cabinet; Main control tray consists of EMS-Slaver, SBMU, harness, DC Disconnect, Current Shunt and 24VDC power supply. EMS-Slaver oversees the whole batteries string's management which includes receiving and analysis the data uploaded by SBMU, communicating with other equipment though Ethernet and RS485.



Figure 4 Battery String

3.1 Electrical diagram in a single battery string



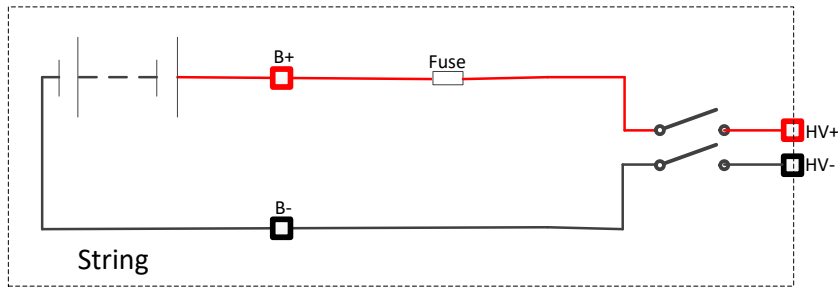


Figure 5 Electrical diagrams in one single string

3.2 Electrical connection between battery system and PCS

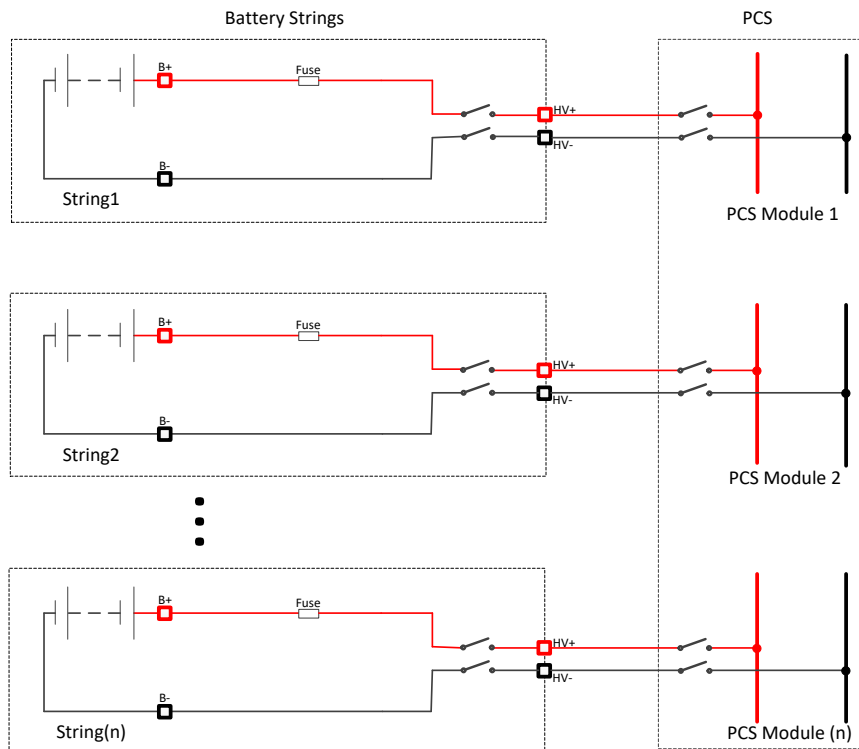


Figure 6 Electrical connections between battery system and PCS

3.3 String Control Tray

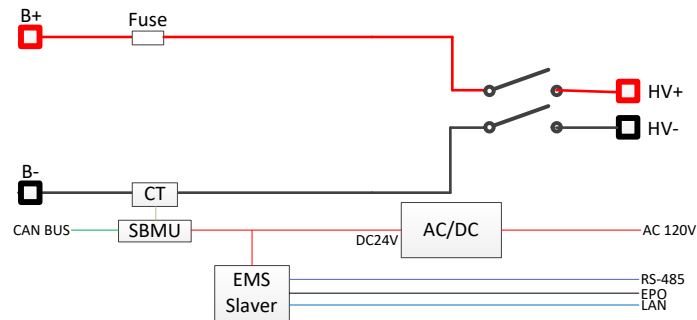


Figure 7 Electrical diagrams in single control tray

In the diagram above, the 24VDC Power supply is powered by a 120VAC input. The 24VDC is used to power the string control units. The CT is used to sample the string current. The SBMU collects all module and cell data which consolidates the voltages and temperatures. EMS-Slaver oversees the whole batteries string's management which includes receiving and analysis the data uploaded by SBMU, communicating with other equipment through Ethernet and RS485.



Figure 8 String control tray

4 Battery Tray

BESS adopts a unique battery tray, which consists of 8 modules in series, and 1 CSC. The CSC monitors each cell voltage and measure cell temperature (terminal connection) at 4 locations per module. The CSC also performs cell balancing.

The battery tray structure is shown below:



Figure 9 Battery tray

4.1 Battery Tray Parameters

No.	Item	Specification	Note
1	Peak voltage	56.8VDC	
2	Nominal voltage	51.2VDC	
3	Operating voltage range	44.8VDC – 56.8VDC	
4	Minimum capacity(0.5C)	216Ah	
5	Average capacity(0.5C)	216Ah	
6	Standard charge current	0.5C (100A)	
7	Standard charge mode	Constant current (100A) to 56.8V, then constant voltage till charge current<9A	
8	Charge time	Standard charge: 2 hours	
9	Standard discharge current	0.5C (100A)	
10	Discharge end voltage	44.8V	
11	Working temperature range	Charge: 0°C ~ 55°C; <0°C, charge not allowed Discharge: -20°C ~ 55°C	
12	Storage temperature	-30°C ~ 60°C	
13	Dimension	W: 450mm D: 831mm H: 193mm	
14	Weight	90kg	
15	Communication protocol	CAN2.0B	
16	Balance	Passive	

5 Cell

Battery system adopts advanced LFP battery with high energy density, good safety performance, and long cycle life. It is already massively used in plug-in hybrid bus and electrical bus.

5.1 Cell performance parameters

No.	Parameter	Specification	Condition
1	Standard capacity	27 Ah	
2	Minimum capacity	27 Ah	
3	Nominal voltage	3.2V	
4	Working voltage	2.5 ~ 3.65 V	N.A.
5	Standard of charge method	0.33C to 3.65V CC/CV	
6	Internal resistance(1KHz)	$\leq 3\text{m}\Omega$	
7	End of charge voltage	3.65V	
8	End of discharge voltage	2.5V	
9	End of charge current	0.02C	
10	Working temperature	Charge: 0 ~ 55 °C Discharge:-20 ~ 55 °C	
11	Storage temperature	-10 ~ 30 °C	
12	Cycle Life	≥ 4000 cycles	@25°C,1C/1C,100 %DOD,80%EOL
13	Cell weight	570.0 \pm 5.0g	N.A.
14	Cell dimension	20*140*100	N.A.



Figure10 Cell

6 Battery Management System

System adopts advanced BMS to monitor and manage the entire process of the battery system operation. It has functions shown below:

- Current, voltage and temperature information sampling
- Calculation and estimation of SOC
- Battery cell balance (Passive)
- Thermal management
- Analysis of system running status
- Charging/Discharging control
- Fault diagnosis
- Alarming and safety protection
- Data communication
- Modbus TCP and web interface support

The BMS architecture is shown below:

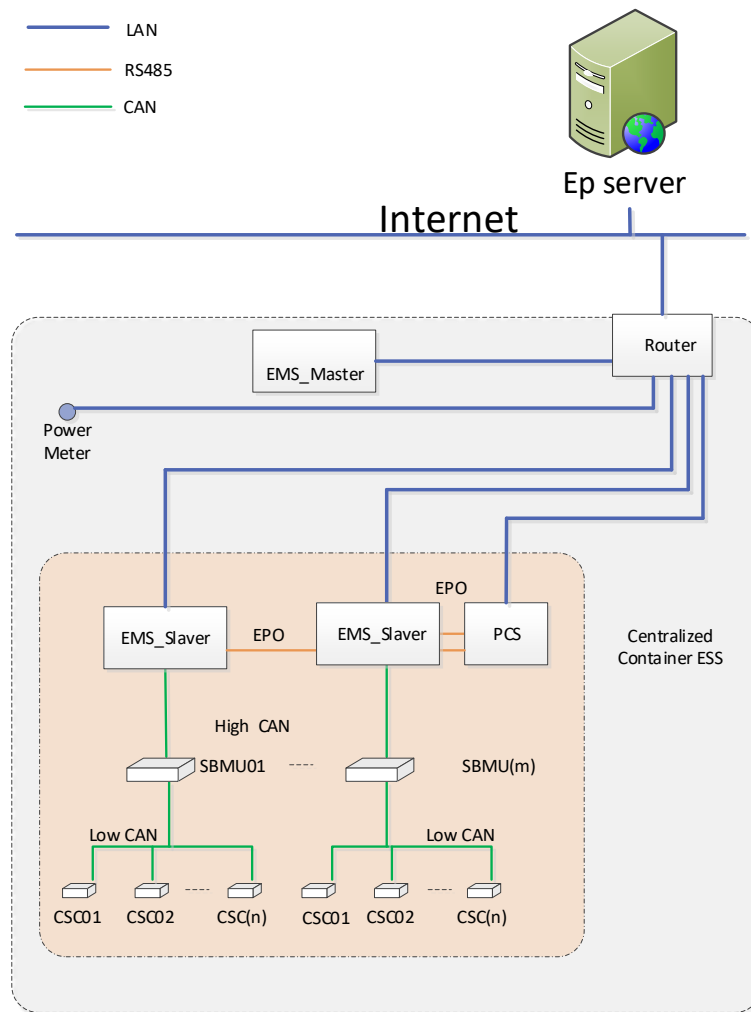


Figure11 Battery management system topology

7 EMS Interface

User can login to any browser by account and password to get the key information of energy storage system through computer, tablet or any mobile equipment with internet.

The functions of EMS interface are shown as bellows:

- Real-time running information of energy storage system;
- Query the user's electricity consumption with ESS and generate the user's monthly electricity report;
- Battery system data gathering and graphical display;
- Historical data record of system running;
- Running parameters setting of system;
- System control and so on.
- Modbus TCP
- Web Interface

8 PCS

BESS adopts industry advanced PCS which is the intermediary device between the storage element, typically large banks of (DC) batteries of various chemistries, and the AC power grid.

The PCS is a bidirectional power conversion device, enabling grid power to be converted to DC, charging the batteries in a controlled manner, or enabling batteries power to be inverted to AC grid power.

More detail about PCS please refers to Sinexcel PCS specification that will be delivered with BESS product specification.

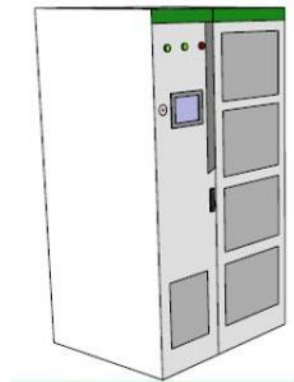


Figure12 Appearance of PCS

No.	PWS1 500KTL	
1	DC PORT - BATTERY	
	Battery Voltage Range	On-grid, 600~900V; Off-grid, 600~850V
	DC. Max Current	873A
	DC. Max Power	550kW
	Quantity of Battery Branch	1/4/8
2	AC GRID-TIE PARAMETER	
	Rated Output Power	500kW
	AC. Max Power	550kVa
	Rated Voltage	380V
	Voltage Range	± 15%
	Rated Frequency	50Hz/60Hz
	Frequency Range	± 2.5Hz
	AC. Rated Current	760A
	AC. Max Current	836A
	Output THDi	≤ 3%
Power Factor	-1~+1	
3	AC OFF-GRID PARAMETER FOR LOAD	
	Voltage	380V
	Voltage adjustable range	± 10%
	Frequency	50Hz/60Hz
	Output THDu	≤ 2% (Linear load)

SYSTEM PARAMETER		
4	Peak Efficiency	98.2%
	Wiring Mode	3Phase 3Wire
	Isolation Mode	No-isolation
	Cooling	Forced air cooling with replaceable fan module
	Noise	70dB
	Working Temp	-20°C~50°C
	IP Degree	IP20
	Max Elevation	3000M
	Humidity Range	0~95%
	Size (W*H*D)	1100*2160*800
	Weight	600kg
	COMMUNICATION	
5	Display	Touch Screen
	Communication Protocol	Modbus TCP/IP
	Communication Socket	RJ45、RS485、CAN

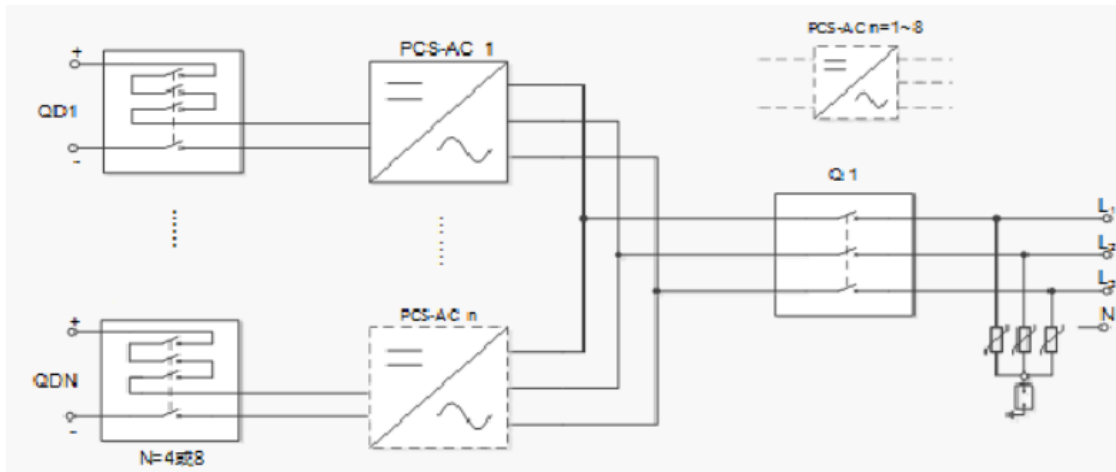


Figure13 Topological graph for storage inverter with 4/8 route input

9 Container

BESS adopts one 20 feet container; the container will be equipped with industry advanced HVAC, of course, the battery system and its control and management system.

More detail about container please refers to container specification that will be delivered with BESS product specification. Recommend 60" (1.5 meter) clearance around the container.

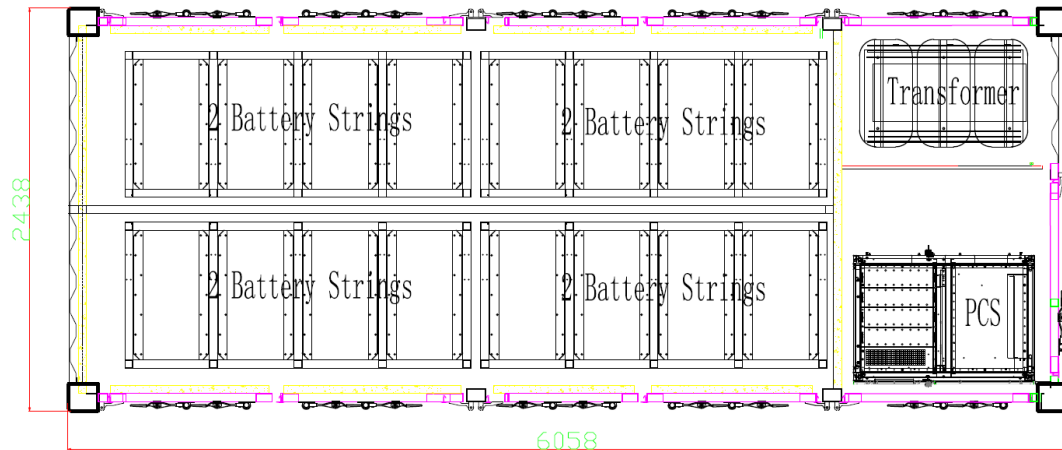


Figure14-1 500kW/1MWh Container Layout

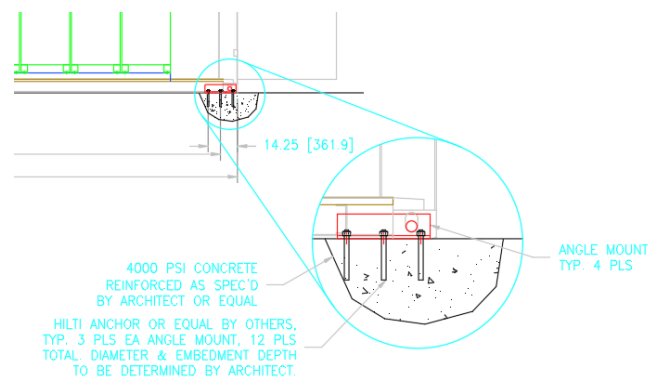


Figure 14-2 Container Mounting Recommendation

9.1 HVAC System

The container is equipped with two 3-ton HVAC units. These are Bard Units model numbers:

W36L2-C15WP1X3J - Left side unit, Wall-Mount™ Air Conditioner 460VAC -3 ph

W36A2-C15WP1X3J - Right side unit, Wall-Mount™ Air Conditioner 460VAC 3 ph

No.	Item	Parameter	
1	Models	W36A2 & W36L2	
2	Cooling Performance	Total Cooling Capacity	35,795 Btuh
		Sensible Capacity	26,738 Btuh
		Efficiency (at AHRI)	9.00 EER

	@Project Parameters	Outdoor DB Temp	95.0 °F
		Entering DB Temp	80.0 °F
		Entering WB Tem	67.0 °F
		Leaving DB Temp	59.8 °F
		Leaving WB Temp	57.9 °F
3	Supply Air Performance	Total Supply Air	1225 cfm
		Blower Motor	1/3 hp
		High Blower Speed Ducted	
		Air flow is based on Wet Coil	
4	Electric Resistance Heat	Nominal Heat Size	15 kW
		Electric Heat Voltage	460 Volts
		Heat Output	47,099 Btuh
5	Electrical Data	Power Supply	460Volts, 3 phase, 60Hz
		Minimum Circuit Ampacity	26 Amps
		Maximum External Fuse or Breaker	30 Amps
6	Approximate Installed Weight	Unit Weight	340lb
		Option Weight	45lb
		Accessory Weight	11lb
		Total Weight	396lb

RG-3W - Return air grill - Extruded aluminum with blades fixed at 45 degree angle, 2" Flange
 8403-059 - Non- Programmable Thermostat 2 heat / 2 cool, (HP 2 heat / 1 cool) Automatic or Manual
 Changeover, battery backup, default configuration is for AC

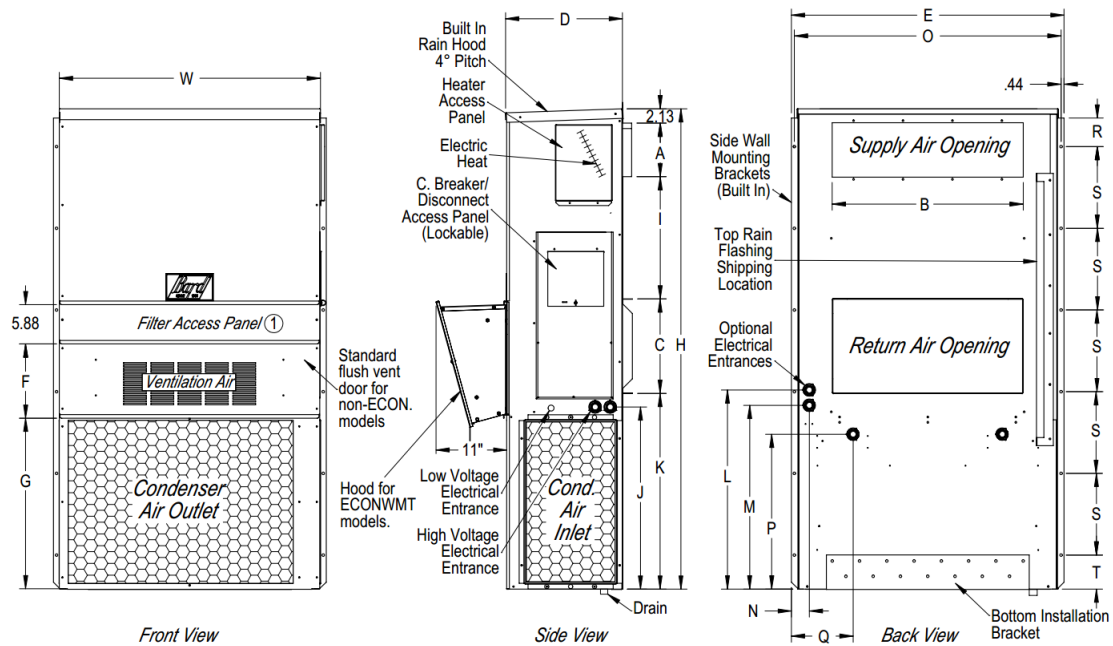


Figure15 HVAC Models

9.2 Fire Suppression System (FFS)

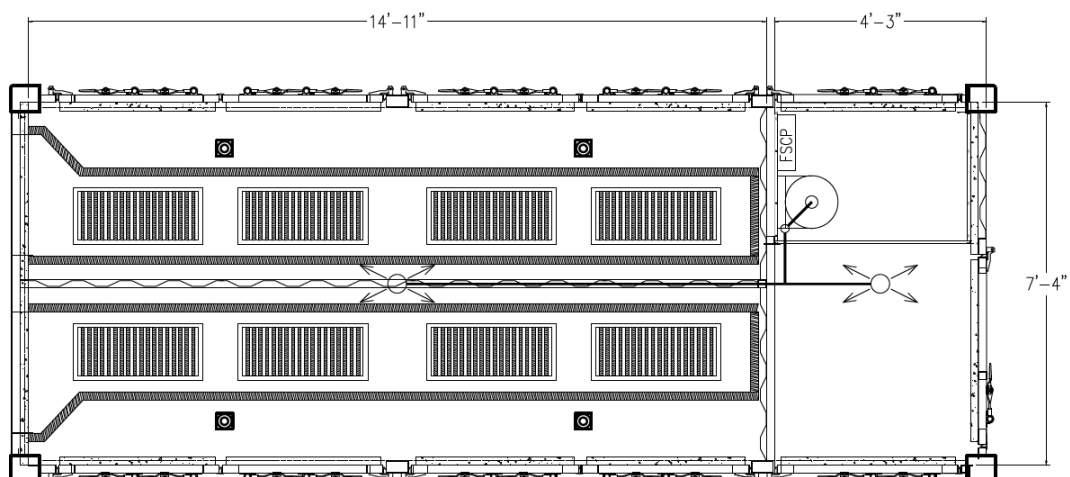
The fire control system is composed of the following units: Fire alarm controller, Gas Fire Extinguishing Controller, Smoke Detector, Temperature Detector, Sound & Light Alarm, Alarm Bell, Indicator Light, Emergency Stop Button, and Fire Extinguishing Devices.

The dividing wall between the two systems that runs the entire length of the container can be considered a fire barrier, but not fire proof since it contains six 1.5" penetrations for the house electrical and fire suppression piping.

Using Novec 1230 or FM200 clean agent to prevent chemical contamination to the battery components.

STANDARDS AND GUIDELINES

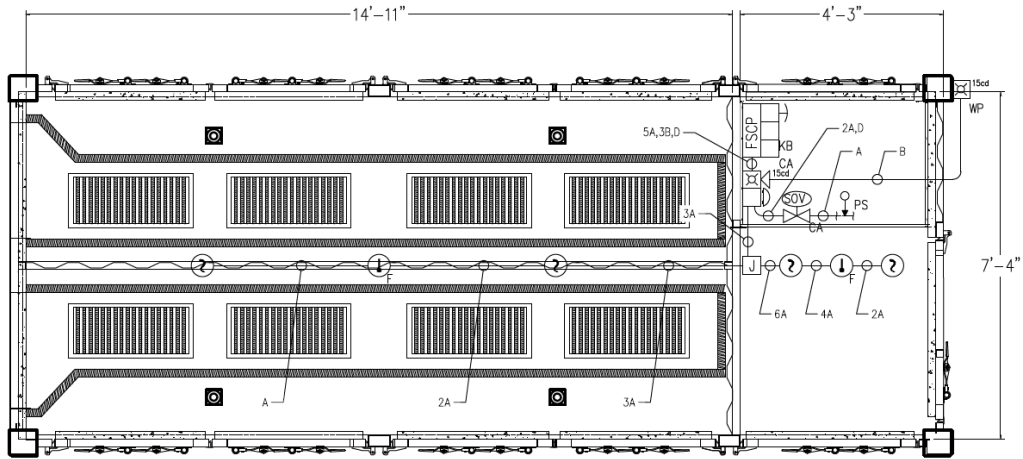
1. N.F.P.A. STANDARDS
 - A. NFPA 70 – NATIONAL ELECTRICAL CODE. (2014 EDITION)
 - B. NFPA 72 – NATIONAL FIRE ALARM CODE. (2016 EDITION)
 - C. NFPA 2001 – STANDARD FOR CLEAN AGENT FIRE EXTINGUISHING SYSTEMS. (2015 EDITION)
2. CALIFORNIA STATE FIRE MARSHALL BUILDING MATERIALS LISTING.
3. CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 19.
4. CCR, TITLE 24, PART 2: 2013 CALIFORNIA BUILDING CODE (CBC).
5. CCR, TITLE 24, PART 3: 2013 CALIFORNIA ELECTRICAL CODE (CEC).
6. CCR, TITLE 24, PART 4: 2013 CALIFORNIA MECHANICAL CODE (CMC).
7. CCR, TITLE 24, PART 9: 2013 CALIFORNIA FIRE CODE (CFC).
8. PIPING INSTALLATION SHALL CONFORM TO ASTM/NFPA 2001 AND SHALL BE SUPPORTED IN ACCORDANCE WITH FSSA PIPE DESIGN HANDBOOK.
9. THE SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH U.L. AND NFPA GUIDELINES, THE EQUIPMENT MANUFACTURER, AND OTHER APPLICABLE STANDARDS AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION.



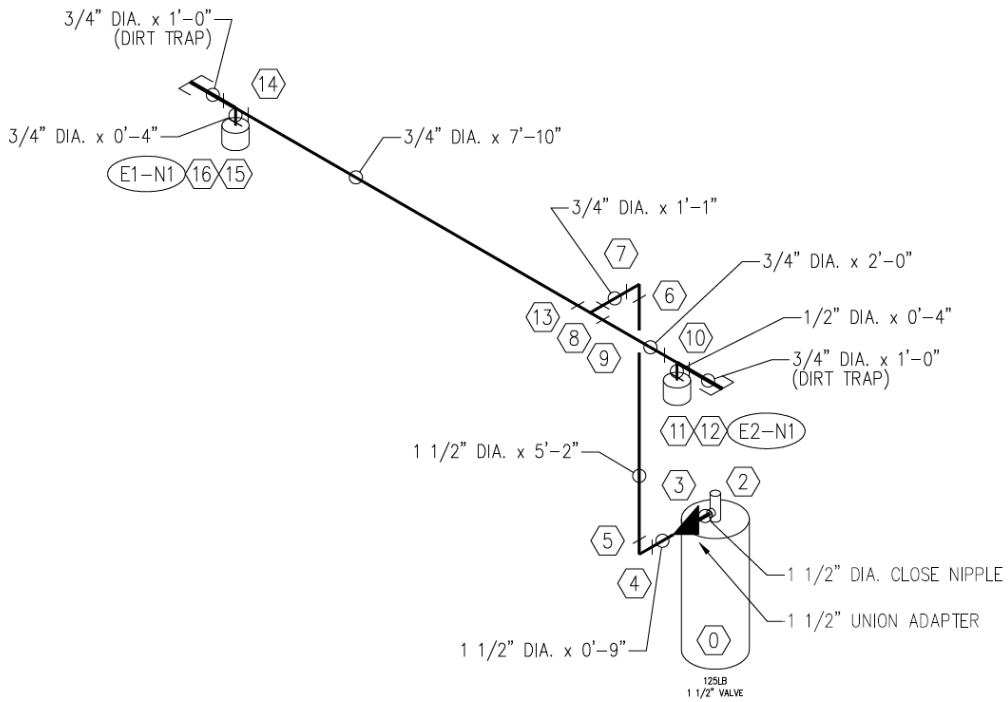
1 PLAN VIEW
TANK & PIPE LAYOUT

SCALE: 1/2"=1'-0"





2 PLAN VIEW
DETECTION & CONTROLS LAYOUT SCALE: 1/2"=1'-0"



3 DISCHARGE PIPE ISOMETRIC SCALE: 1/2"=1'-0"

10 Product End of Life Management

The cell is designed to service with a finite life time. Customer should develop and implement an effective tracking system to monitor and record resistance of each product in its entire service life. The methods of internal resistance measurement and calculation methods need client and Ep together to discuss and bilateral agreement. Customer and/or its user shall stop using the product when its DCR exceeds 250% of the delivery value. Violation of this requirement will exempt the Ep sales contract and the responsibilities of product quality Ep takes mentioned in the contract.

11 Storage and Others

1. According to characteristics of the battery, environmental conditions of storage and transportation should be satisfied in order to protect the performance of the battery
2. In the process of storage and transportation process, battery system should be protected to maintain about 50% of the SOC level, to ensure that no short circuit and liquid into the battery system or immersed in liquids (water, oil, etc.).
3. Other requirements, please refer to the battery system using precautions.

12 Battery System Installation and Operation instruction

Battery system is an energy storage device, classified as dangerous goods. Non-professionals and improper operation may cause electric shock, fire, explosion and other serious consequences. Battery system installation, maintenance must be operated by professional and technical personnel and must be used in strict compliance with the relevant safety regulations. Forbid non-professional installation, maintenance and abuse beyond specified scope.

12.1 Battery System Internal Connections

Battery system connections consists of: the positive and negative power supply, communication interface, connecting cables:

1. Each connector must be safe and reliable, and ensure that there are not problems of loose and virtual contact. The contact resistance is close to 0 Ω and the connector must have the capability of corrosion-resistant, wear-resistant, and shock-resistant.

2. All connections must meet the relevant requirements of national standards to prevent all forms of arc discharge.

3. Connection between the internal battery must have seismic anti-loosening device.

Temperature, voltage, current sensors also need secure and reliable connection. Prevent loosening, aging and squeezed. The sense lines prohibited any exposed metal phenomenon.

4. Prevent any forms of short circuit during the process of connection.

5. Prohibit personnel without protective gear to hand operation.

6. All connections must be carried out under the explicitly guidance, any form of conjecture and vague attempts to form practices are forbidden.

7. The key points of connection is that connections are correctly and securely connected

without loose, contact resistance and short circuit.

8. After the connection, you must confirm and measure point by point.

9. All connection points must ensure that no other parts of the outer box or contact circuit

10. Other uncertainties that need to consult a professional to be implemented after confirmation.

12.2 Moisture proof and Waterproof

Battery system is energy storage device and there are many control harnesses and single cells.

When liquid enters the battery may cause short circuit, leakage of electricity, single cell and electronic circuits and connectors corrosion, so it must be ensured that the battery system will not be soaked by any kinds of liquids and the moist air is forbidden to enter into the battery system.

The battery system can never be exposed under the sun and rain. If the battery system is soaked by liquid or gets wet in rain, it needs to be immediately maintained. Battery system installation space must fully consider the waterproof function.

12.3 Thermal Insulation

Battery systems must be maintained at optimum operating temperature range, which can greatly extend battery life and improve battery safety performance. Temperature limits should fully meet the specifications of the various definitions and the battery system installation space should be ventilated, thermal insulation, non-direct sunlight. Prohibit heat directly in the sunlight to pass underneath the battery and batteries in cold winter heat directly emitted to the outside world.

12.4 Shockproof and Crushproof

The battery system installation must be firm and reliable without any loose and shaking. Prohibit turning or tilting the battery system installation, shockproof cushion pads must be installed at the bottom of the battery system in order to prevent the battery from severe vibration to influence battery connection reliability. External battery system installation space must have sufficient strength crash protection devices to ensure the general collision does not directly damage the battery system and batteries, which will avoid causing the battery to a security incident (direct short circuit, overheating, burning, etc.).

12.5 Insulation

All power connections section of the battery system must be ensured that there are adequate insulation protection measures. The battery positive pole and negative pole should be ensured that they will not touch with pack box in any case, to avoid leakage electricity and short circuit. At any time, of the positive pole and the negative pole should not be directly connected leading short circuit, or it may cause significant safety and electrical shock.

12.6 Accident Disposal

Every effort should promptly take correct and effective action to dispose of Battery system and exclude further damage and losses when anomalies and accidents happen:

1. Overheat: Under normal circumstances, battery cooling system will automatically cool down the battery system to the optimal operating temperature range when the battery system battery overheating. When the battery system not dropping to the target temperature within the specified time or battery cooling system temperature exceeds the upper limit of safe use, the management system will give a warning and asked to immediately stop using. In this case, you should immediately stop using the battery, and notify the relevant technical staff to conduct a comprehensive inspection and troubleshooting before use.

2. Electric Leakage: If customer find the battery system leaking, it must immediately evacuate personnel in the room, and immediately notify the relevant technical personnel to the scene processing, troubleshooting before use. Strictly prohibit battery to work sick, or to force to be used.

3. Over discharge: When the battery energy is exhausted, the overall voltage is too low or the cell voltage is lower than the individual normal operating voltage range. The management system will be given a warning and asked to immediately stop using the battery and charging. You should immediately stopping discharge of the battery and start charging. Prohibit forcing to continue to discharge the battery at this time and it will damage the battery performance and may result in permanent damage to the battery in severe cases.

4. Short Circuit: all causes short circuit of the battery system, you must immediately evacuated personnel in the room. Immediately you must disconnect the battery from the system and cut off power and relevant electrical equipment (if possible), and immediately notify the relevant technical staff site to repair troubleshooting. The short-circuit battery will not be re-used and must be fully tested by the manufacturer before determining whether they can continue to use.

5. Combustion: Customer must immediately evacuate personnel in all causes burning incident in the room. Within safety limits, any unrelated persons are forbidden to be close to the storage room (because of possible risk of explosion). Professional personnel should use fire extinguishers to put out the fire. After fire is put out, personnel wearing protective equipment cut off the power and the battery is fully discharged by resistance (voltage to zero volts), before removing the battery system for subsequent operations analysis.

6. Battery system Crash: Due to various reasons, if the battery system is crashed, deformation or body piercing, customer should immediately disconnect the battery power cable and inform professional and technical personnel to the scene to remove the battery system. Customer should let the personal who wears protective equipment required to make sure the battery is fully discharged before the demolition work.

7. Other accidents: when customer need to repair or remove the battery system due to other accidents. Customer should first disconnect the battery line and ensure that the battery will not be short-circuited, then remove the battery system and ensure that the battery system will not be collisions, drop, inversion and other conditions. Or else, please refer to the above regulations.

12.7 Warning

WARNING

CELLS ARE POTENTIALLY DANGEROUS, PROPER PRECAUTIONS MUST BE TAKEN IN OPERATION AND MAINTENANCE.

OPERATE TESTS DESCRIBED IN THIS SPECIFICATION ON THE CELLS IMPROPERLY MAY RESULT IN SEVERE PERSONAL BODY INJURY OR PROPERTY DAMAGES.

PROPER TOOLS AND SAFEGUARD EQUIPMENT MUST BE USED PROPERLY WHEN OPERATION ON CELL

**CELL MAINTENANCE MUST BE CARRIED OUT BY PERSONNEL WITH KNOWLEDGE OF BATTERY AND SAFETY TRAINING.
VIOLATION OF THE WARNING ABOVE WILL LEAD TO VARIOUS DISASTERS.**

12.8 Maintenance

1. Customer is obligated to make rational maintenance plan, such as monthly dust clearing, battery performance inspection and so on, make sure the normal use of the product.
2. Scrap products should be immediately recycled by designated and qualified manufacturers. Prohibit casually discarding since this can lead to accidents or serious pollution of the environment.

Attachment “C”
Community Workforce Agreement

COMMUNITY WORKFORCE AGREEMENT

For the City of San Leandro

This Agreement is made and entered into this ___ day of _____, by and between the City of San Leandro ("City") together with contractors and sub-contractors of all tiers, who shall become parties to this Agreement by signing the "**Agreement to be Bound**" (**Attachment A**), and the Alameda County Building & Construction Trades Council and its affiliated local Unions who have executed this Agreement.

PURPOSE

The purpose of this Agreement is to support the efforts of the City to increase employment opportunities for workers who reside in San Leandro, to help increase training and employment opportunities for the City's students in the construction trades through apprenticeship and pre-apprentice programs as the students graduate from the City's schools, to promote efficiency of construction operations performed for and within the City of San Leandro and to provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the projects.

RECITALS

WHEREAS, the successful completion of the City's construction projects is of the utmost importance to the City of San Leandro; and

WHEREAS, the interests of the general public, the City, the Unions and Contractor(s) would be best served if the construction work proceeded in an orderly manner without disruption because of strikes, sympathy strikes, work stoppages, picketing, lockouts, slowdowns or other interferences with work; and

WHEREAS, the Contractor(s) and the Unions desire to mutually establish and stabilize wages, hours and working conditions for the workers employed on construction work for and within the City of San Leandro by the Contractor(s), and further, to encourage close cooperation among the Contractor(s) and the Union(s) to the end that a satisfactory, continuous and harmonious relationship will exist among the parties to this Agreement; and

WHEREAS, the parties agree that one of the primary purposes of this Agreement is to avoid the tensions that might arise on the Project if Union and non-union workers of different employers were to work side by side on the Project, thereby leading to labor disputes that could delay completion of the Project; and

WHEREAS, this Agreement is not intended to replace, interfere with, abrogate, diminish or modify existing local or national collective bargaining agreements in effect during the duration of the Project, insofar as a legally binding agreement exists between the Contractor(s)/Employer(s) and the affected Union(s), except to the extent that the provisions of this Agreement are inconsistent with said collective bargaining agreements, in which event, the provisions of this Agreement shall prevail; and

WHEREAS, contracts for construction work within the City of San Leandro will be awarded in accordance with the applicable provisions of the Charter of the City of San

Leandro, the California State Public Contract Code and the Labor Code, including but not limited to competitive bidding and payment of prevailing wages; and

WHEREAS, the City of San Leandro has the absolute right to select the lowest responsive and responsible bidder for the award of the construction contracts for the Projects; and

WHEREAS, the parties signatory to this Agreement pledge their full good faith and trust to work towards a mutually satisfactory completion of the Projects.

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES HERETO, AS FOLLOWS:

ARTICLE 1

DEFINITIONS

- 1.1 "Agreement" means this Community Workforce Agreement.
- 1.2 "Agreement to be Bound" means the agreement (attached hereto and incorporated herein as Exhibit A) which shall be executed by each and every Contractor(s)/Employer(s) as a condition of performing Project Work.
- 1.3 "Alameda County Residents" shall include any residents living in any city or unincorporated section of Alameda County six months prior to the award of a Project.
- 1.4 "San Leandro Resident" means any individual who six months prior to the award of a Project can certify through a utility bill, or other similar means acceptable to the parties to this Agreement that the individual resides within the boundaries of the San Leandro City Limits.
- 1.5 "City" means the City of San Leandro.
- 1.6 "Completion" means that point at which there is Final Acceptance by the City of a Construction Contract. For this definition of "Completion", "Final Acceptance" shall mean that point in time at which the engineer for the City has determined upon final inspection that the work has been completed in all respects and all required contract documents, contract drawings, warranties, certificates, manuals and data have been submitted and training completed in accordance with the contract documents and the City Council has accepted the work.
- 1.7 "Contractor(s)" or "Contractor(s)/Employer(s)" means any individual, firm, partnership or corporation, or other business entity, or combination thereof, including joint ventures that is an independent business enterprise, and their successors and assigns that has entered into a contract with the City with respect to the construction work necessary for any part of a Project, under contract terms and conditions approved by the City and which incorporate this Agreement, and any of its contractors or subcontractors of any tier.
- 1.8 "Construction Contract(s)" means all of the contract(s) for construction of any Project.
- 1.9 "Council" means the Alameda County Building and Construction Trades Council, AFL-CIO.

1.10 “New Apprentice” means a San Leandro Resident who is indentured in a State of California approved apprenticeship program that is a joint labor-management apprentice program for no more than twenty-four months.

1.11 “Project” means any construction project awarded by the City, by and through its City Council, and paid for in whole or in part out of City General Fund or City Enterprise Fund monies, the value of which, either estimated by the City or bid by the Contractor, exceeds \$1,000,000.00. The City and the Council may mutually agree in writing to add additional components to a Project’s Scope of Work that is covered under this Community Workforce Agreement.

1.12 “Union” or “Unions” means the Council and any affiliated labor organization signatory to this Agreement, acting on their own behalf and on behalf of their respective affiliates and member organizations, whose names are subscribed hereto and who have through their officers executed this Agreement.

1.13 “Project Manager” means the person or persons or business entity designated by the City to oversee all phases of construction on the Projects.

1.14 “Schedule A Agreement” or “Master Labor Agreement” means the local master labor agreement of a Union signatory to this Agreement.

ARTICLE 2

SCOPE OF AGREEMENT

2.1 Parties: This Agreement shall apply and is limited to all Contractors/Employers (including subcontractors at any tier) performing work under Construction Contracts necessary for the Projects, the City, the Council and any affiliated labor organization signatory to this Agreement, acting in their own behalf and on behalf of their respective affiliates and member organizations, whose names are subscribed hereto and who have through their officers executed this Agreement.

2.2 Project Description: This Agreement shall apply to the award of all of the Construction Contracts identified by the City as part of the Projects. The City has the absolute right to combine, change, consolidate, suspend or cancel Construction Contract(s) or portions of Construction Contract(s) identified as part of the Projects. Should the City suspend or remove any individual project from the Projects and thereafter authorize that construction work be commenced on such project, then such project shall be performed under the terms of this Agreement. Once a Construction Contract is completed it is no longer covered by this Agreement except when a Contractor is directed to engage in repairs, warranty work or modifications required by its Construction Contract with the City.

2.3 Covered work:

2.3.1 This Agreement covers, without limitation, all on-site preparation, surveying, construction, alteration, demolition, installation, improvement, painting or repair of buildings, structures and other works, and related activities for the Project that is within the craft

jurisdiction of one of the Unions and which is directly part of the Project, including, without limitation to the following examples, geotechnical and exploratory drilling, temporary HVAC, landscaping and temporary fencing, pipelines (including those in linear corridors built to serve the project), pumps, pump stations, and modular furniture installation. On-site work includes work done for the Project in temporary yards, dedicated sites, or areas adjacent to the Project, and at any on-site or off-site batch plant constructed solely to supply materials to the Project. Covered work includes all soils and materials testing and inspection where such testing and inspection is a classification in which a prevailing wage determination has been published.

2.3.2 This Agreement shall apply to any start-up, calibration, commissioning, performance testing, repair, maintenance, and operational revisions to systems and/or subsystems performed after Completion unless it is a new contract and falls below the threshold identified in section 1.11, or is performed by City Employees.

2.3.3 This Agreement covers all on-site fabrication work over which the City or Contractor(s)/ Employer(s) possess the right of control (including work done for the Project in any temporary yard or area established for the Project). Additionally, this Agreement covers any off-site work, including fabrication necessary for the Project defined herein, that is covered by a current Schedule A Agreement or local addenda to a National Agreement of the applicable Union(s) that is in effect as of the execution date of this Agreement.

2.3.2 The furnishing of supplies, equipment or materials which are stockpiled for later use shall not be covered by this Agreement. However, construction trucking work such as the delivery of ready-mix, asphalt, aggregate, sand or other fill material which are directly incorporated into the construction process as well as the off-hauling of debris and excess fill, material and/or mud, shall be covered by the terms and conditions of this Agreement. Employers, including brokers, of persons providing construction trucking work shall provide certified payroll records to the City within ten (10) days of written request or as required by bid specifications.

2.3.3 The on-site installation or application of all items shall be performed by the craft having jurisdiction over such work as set forth under the provisions of this Agreement; provided, however, it is recognized that installation of specialty items which may be furnished by the owner of the Project or a Contractor shall be performed by construction persons employed under this Agreement who may be directed by other personnel in a supervisory role; provided, however, in limited circumstances requiring special knowledge of the particular item(s), work may be performed by construction persons of the vendor or other companies where necessary to protect a manufacturer's warranty. The issue of whether it is necessary to use construction persons of the vendor or other companies to protect the manufacturer's warranty shall be subject to the grievance and arbitration clause of this Agreement.

2.4 Exclusions: The following shall be excluded from the scope of this Agreement:

2.4.1 This Agreement is not intended to, and shall not affect or govern the award of public works contracts by the City that are outside the identified scope of work of the Projects.

2.4.2 This Agreement shall not apply to a Contractor or subcontractor's non-craft executives, managerial employees, engineering employees, design employees, supervisors (except those

covered by existing building and construction trades collective bargaining agreements), office and clerical employees.

2.4.3 This Agreement shall not apply to any work performed on or near or leading to the site of work covered by this Agreement that is undertaken by state, county or other governmental bodies or their contractors; or by public or private utilities or their contractors; or by the City or its contractors for work not part of the scope of the Projects. Further, this Agreement shall not be construed to prohibit or restrict the City or its employees from performing work on or around the Project construction sites or from entering Project sites for any purposes deemed necessary or appropriate by the City.

2.4.4 This Agreement shall not apply to the off-site maintenance of leased equipment or the on-site supervision of such work.

2.4.5 In the event that the City becomes aware or is made aware that this Agreement or portions thereof are inconsistent with the terms and conditions of any grant, loan, or contract with any Federal, State, or regional agency or with the instructions or directions of an authorized representative of a Federal, State or regional agency to which the City is applying for or has received grant funds, the City shall notify the Council. Within 24 hours of notification, the parties shall meet and confer to attempt to modify the Agreement to avoid the forfeiture of any funding or to otherwise resolve the issue. Should the parties be unable to come to an accord, this Agreement or any inconsistent provision shall be modified, subject to the approval of the City Council, to remain in compliance with the requirements of the applicable funding source.

2.5 Termination, Suspension and/or Delay of Work: It is understood and agreed that the City, at its sole option, may change, terminate, delay and/or suspend any and all portions of Covered Work at any time. Further, the City may prohibit some or all work on certain days or during certain hours of the day to comply with applicable codes, laws or regulations, permits or to accommodate the ongoing operations of the City's facilities and/or to mitigate the effects of the ongoing Projects' work on the businesses and residents in the neighborhoods of the Project sites; and/or require such other operational or schedule changes that may be deemed necessary, in its sole judgment, to effectively maintain the primary purpose of the City's facilities and to remain a good neighbor to the residents and businesses in the immediate area of any Projects. In order to permit the Contractors and Unions to make appropriate scheduling plans, the City will provide the affected Contractor with reasonable notice of any changes, beyond what was stated in the bid documents, that it requires pursuant to this Section.

2.6 Work covered by this Agreement within the following craft jurisdictions shall be performed under the terms of their National Agreements as follows: the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, and the National Agreement of Elevator Constructors, and any instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Technicians, with the exception that Articles IV, XI and XII of this Agreement shall apply to such work.

2.7 The parties are hereby notified that any Projects funded in whole or in part by HUD Section 3 financial assistance must provide employment, registered apprenticeship, training, contracting, or other economic opportunities to Section 3 residents and businesses in a manner that is consistent with Section 3 of the Housing and Urban Development Act of 1968.

The parties shall meet and confer to modify this agreement when and where necessary to comply with HUD regulations.

ARTICLE 3

EFFECT OF AGREEMENT/SUBCONTRACTORS

3.1 By executing this Agreement, the Unions and the City agree to be bound by each and every provision of this Agreement.

3.2 By accepting the award of a Construction Contract for a Project, whether as contractor or subcontractor at any tier thereunder, the Contractor/Subcontractor agrees to be bound by each and every provision of this Agreement.

3.3 This Agreement shall only be binding on the signatory parties hereto, their successors and assigns, and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any such party unless performing work within the scope of the Project(s).

3.4 The provisions of this Agreement, including the Schedule A agreements, which are incorporated herein by reference and which are the local Master Agreements of the Signatory Unions having jurisdiction over the work on the Project, shall apply to the work covered by this Agreement, notwithstanding the provisions of any other local, area and/or national agreements which may conflict with or differ from the terms of this Agreement. It is understood that this Agreement, together with the referenced Schedule A Agreements, constitute an integrated, self-contained, stand-alone agreement, and that by virtue of having become bound to this Agreement, the Contractor will not be obligated to sign any other local, area, or national agreement as a condition of performing work within the scope of this Agreement. Where a subject covered by the provisions of this Agreement is also covered by a Schedule A, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a Schedule A and is not covered by this Agreement, the provisions of the Schedule A shall prevail.

3.5 In addition, it is understood and agreed that all grievances and disputes involving the interpretation or application of this Agreement, including the Schedule A Agreements, shall be resolved according to the procedures set forth in Article 11 of this Agreement; provided, however, that should a dispute involve a single Schedule A Agreement and a Contractor signatory thereto, and not involve interpretation or application of this Agreement, then such dispute shall be processed and resolved pursuant to the grievance provisions of that Schedule A Agreement. Should there be a dispute in the first instance as to whether the provisions of Article 11 of this Agreement or the grievance procedures of a Schedule A Agreement apply, the dispute shall be presented initially to an arbitrator who shall be selected pursuant to the method described in Article 11. Such referral of a dispute as to the applicable procedures shall be done by an immediate conference call among the parties and the arbitrator, and be heard and decided within three (3) calendar days. Should the arbitrator hold that Article 11 applies, the parties may, by mutual agreement, submit the issue to the same arbitrator pursuant to the provisions of Article 11, or, absent mutual agreement, commence processing the dispute at Step 1 of that Article.

3.6 **Subcontractors**: At the time that any Contractor enters into a subcontract with any subcontractor of any tier for the performance of construction or construction trucking work

within the scope of this Agreement, the Contractor shall provide a copy of this Agreement, as it may from time to time be modified by the negotiating parties, to said subcontractor and shall require the subcontractor, as a part of accepting an award of a construction subcontract, to agree to be bound by each and every provision of the Agreement prior to the commencement of work.

3.6.1 Each Contractor and Subcontractor shall evidence their agreement to be bound to this Agreement by executing the **Agreement To Be Bound** form attached hereto as **Exhibit A**. A copy of the Agreement To Be Bound executed by the Contractors and Subcontractors shall be submitted to the Council and the Union(s) prior to both the commencement of work and the Pre-Job Conference and will be a required submittal within the City's bid packages. If the Contractor or Subcontractor refuses to execute the Agreement To Be Bound, then such Contractor or Subcontractor shall not be awarded a Construction Contract to perform work on the Projects. A Contractor or Subcontractor who executes the Agreement to Be Bound shall be considered a signatory party to this Agreement.

3.6.2 It is understood that the liability of each Contractor and Subcontractor and the liability of each Union under this Agreement shall be several and not joint. Any dispute between the Union(s) and the Contractor/Employer respecting compliance with the terms of the Agreement shall not affect the rights, liabilities, obligations and duties between the signatory Union(s) and other Contractor(s)/Employer(s) party to this Agreement. Any alleged breach of this Agreement by a signatory Union shall not affect the rights, liabilities, obligations and duties between the signatory Contractor(s)/Employer(s) and the other Union(s) party to this Agreement. The Unions agree that this Agreement does not have the effect of creating any joint employment status between or among the City and/or any Contractor or Subcontractor.

3.6.3 With regard to any Contractor or subcontractor that is independently signed to any Schedule A Agreement, this Agreement shall in no way supersede or prevent the enforcement of any subcontracting clause contained in such Schedule A Agreement. Any such subcontracting clause in a Schedule A Agreement shall remain and be fully enforceable between each craft union and its signatory employers and no provision of this Agreement shall be interpreted and/or applied in any manner that would give this Agreement precedence over subcontracting obligations and restrictions that exist between craft Unions and their respective signatory employers under a Schedule A Agreement. To the extent that the provisions of this Agreement are inconsistent with any other provisions contained in a Schedule A Agreement, the provisions of this Agreement shall prevail.

ARTICLE 4

WORK STOPPAGES, STRIKES, SYMPATHY STRIKES AND LOCKOUTS

4.1 The Unions, City and Contractor agree that for the duration of the Projects:

4.1.1 There shall be no strikes, sympathy strikes, work stoppages, picketing, hand billing or otherwise advising the public that a labor dispute exists, or slowdowns of any kind, for any reason, by the Unions or construction persons employed on the Projects, at a job site of the Projects or at any other facility of the City because of a dispute on the Projects. Nor shall the Unions or construction persons employed on the Projects participate in any strikes, sympathy strikes, work stoppages, picketing, hand billing, slowdowns, or otherwise advising the public that a labor dispute exists at a Project jobsite because of a dispute between Unions and Contractor(s) on any other project.

4.1.2 As to construction persons employed on the Projects, there shall be no lockout of any kind by a Contractor covered by this Agreement

4.1.3 If a Schedule A Agreement between a Contractor and the Union expires before the Contractor completes the performance of a Construction Contract and the Union or Contractor gives notice of demand for a new or modified Schedule A Agreement, the Union agrees that it will not strike, picket, hand-bill, slowdown or engage in any other disruptive activity against the Contractor and the Contractor will not lock out construction persons of the Union on said Construction Contract for work covered under this Agreement and the Union and the Contractor agree that the expired Schedule A Agreement shall continue in full force and effect for work covered under this Agreement until a new or modified Schedule A Agreement is reached. If the new or modified Schedule A Agreement provides that any terms of the new Schedule A Agreement shall be retroactive, the Contractor agrees to comply with any retroactive terms of the new or modified Schedule A Agreement applicable to construction persons employed on the Projects within seven (7) days.

4.1.4 It shall not be considered a violation of this article for a Union to withhold labor (but not picket) from any Contractor/Employer who fails to make its timely payment of Trust Fund contributions or fails to meet its weekly payroll. The affected Union shall give seventy-two (72) hours written notice to the City and to the Contractor/Employer prior to withholding labor due to a Contractor's failure to make timely payment of Trust Fund contributions and twenty-four (24) hours written notice to the City and to the Contractor/Employer when a Contractor/Employer fails to make weekly payroll or when paychecks are determined to be nonnegotiable by a financial institution normally recognized to honor such paychecks, during which time the Contractor/Employer shall have the opportunity to correct the default.

4.1.5 If the City contends that any Union has violated this Article, it will notify in writing (including email) the Secretary-Treasurer/Business Manager/Senior Executive of the Council and the Senior Executive of the Union, setting forth the facts alleged to violate the Article, prior to instituting the expedited arbitration procedure set forth below. The Council will immediately use its best efforts to cause the cessation of any violation of this Article. The leadership of the Union will immediately notify the membership of its obligations under this Article.

4.2 **Expedited Arbitration:** Any party to this Agreement shall institute the following procedure, in lieu of or prior to any other action at law or equity, when a breach of this Article 4 is alleged to have occurred:

4.2.1 A party invoking this procedure shall notify Robert Hirsch whom the parties agree shall be the permanent arbitrator under this procedure. In the event that the permanent arbitrator is unavailable at any time, William Riker shall be the alternate arbitrator. If neither is available, then the arbitrator shall be chosen from the list provided in Article XI. Notice to the arbitrator shall be by the most expeditious means available, with notices by facsimile, electronic mail or telephone to the party alleged to be in violation, to the City, to the Council and to the involved local Union if a Union is alleged to be in violation of this Agreement.

4.2.2 Upon receipt of said notice, the arbitrator shall convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.

4.2.3 The Arbitrator shall notify the parties by facsimile, electronic mail or telephone of the place and time for the hearing. Said arbitration shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all parties. A failure of any party to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator.

4.2.4 The sole issue at the hearing shall be whether or not a violation of Article 4, Section 4.1 of this Agreement has occurred. The arbitrator's decision shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) calendar days, but its issuance shall not delay compliance with or enforcement of the award. The arbitrator may order cessation of the violation of this Article 4 and other appropriate relief and such award shall be served on all parties by hand or the most expedient means allowed by law that meets the timelines set forth herein.

4.2.5 Such award may be enforced by any Court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to above in the following manner: Written notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the arbitrator's decision as issued under Section 4.2.4 of this Article 4, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The Court's order or orders enforcing the arbitrator's award shall be served on all parties by hand or the most expedient means allowed by law that meets the timelines set forth herein.

4.2.6 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance are waived by the parties.

4.2.7 The fees and expenses of the arbitrator shall be divided equally between the party instituting the arbitration proceedings provided in this Article and the party alleged to be in breach of its obligations under this article.

4.3 Liquidated Damages: If the arbitrator determines that a violation of Section 4.1 has occurred, the breaching party shall, within eight (8) hours of the issuance of the decision take all steps necessary to immediately cease such activities and return to work. If the breaching party involved does not cease such activities by the beginning of the next regularly scheduled shift following the expiration of the eight (8) hour period after the arbitrator's issuance of the decision, then the breaching party shall pay the sum of ten thousand dollars (\$10,000) as liquidated damages to the City per shift until the breach is remedied. The arbitrator shall retain jurisdiction for the sole purpose of determining compliance with this obligation and determining the amount of liquidated damages, if any; but such retention shall not prevent the moving party from seeking judicial enforcement of the initial decision.

ARTICLE 5

PRE-JOB CONFERENCE

5.1 A mandatory pre-job conference shall be held after the award of the Construction Contract and prior to the commencement of work. Such conference shall be attended by a

representative from the participating Contractor(s), including all sub-contractors, and Union(s) and the Project Manager. All efforts will be made to hold the pre-job conference in sufficient time to ensure all parties the ability to properly raise and resolve any issue that may arise out of such meeting, with a goal that such conferences will be held at least ten (10) days before the work commences. Unless otherwise agreed to by the parties, all pre-job conferences will be held at San Leandro City Hall.

ARTICLE 6

NO DISCRIMINATION

6.1 The Contractors and Unions agree not to engage in any form of discrimination based on any protected class, including but not limited to race, color, creed, religion, national origin, ancestry, age, sex, sexual orientation or disability against any person, or applicant for employment on the Projects.

ARTICLE 7

UNION SECURITY

7.1 The Contractors recognize the Union(s) as the sole bargaining representative of all construction persons working within the scope of this Agreement.

7.2 All construction persons who are employed by the Contractor(s) shall, as a condition of employment, on or before the eighth (8th) day of consecutive or cumulative employment on the Projects, be responsible for the payment of the applicable monthly working dues and any associated fees uniformly required for union membership in the applicable local union which is signatory to this Agreement. Further, there is nothing in this Agreement that would prevent non-union construction persons from joining the local union.

7.3 Authorized representatives of the Unions shall have access to the Projects whenever work covered by this Agreement is being performed on the Project.

ARTICLE 8

REFERRAL AND LOCAL HIRE PROGRAM

8.1 Referral:

8.1.1 Contractor(s) performing construction work on the Projects described in the Agreement shall, in filling craft job requirements, utilize and be bound by the registration facilities and referral systems established or authorized by the Unions signatory hereto ("Job Referral System"). Such Job Referral System will be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and nondiscrimination.

8.1.2 The Contractor(s) shall have the right to reject any applicant referred by the Union(s), in accordance with the applicable Master Agreement.

8.1.3 The Contractor(s) shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Unions(s).

8.1.4 In the event that referral facilities maintained by the Union(s) are unable to fill the requisition of a Contractor(s) for employees within a seventy-two (72) hour period after such requisition is made by the Contractor(s), the Contractor(s) shall be free to obtain employees from any source. Contractor(s) shall promptly notify the Union(s) of any applicants hired from other sources. This provision does NOT affect core employees as defined below.

8.1.5 Unions shall exert their utmost efforts to recruit sufficient numbers of skilled craft persons to fulfill the requirements of the Contractor(s).

8.2 Local Hire:

8.2.1 All parties agree to make a good faith effort to refer on a priority basis, consistent with the non-discriminatory referral procedures of the hall, qualified and available, and bona-fide San Leandro residents and if no San Leandro residents are available, then Alameda County Residents, for Project work.

8.2.2 The parties also recognize and support the City's commitment to provide opportunities for participation on the Projects to San Leandro businesses through the City's Local Business Preference Ordinance. In furtherance of this commitment, the parties agree that such San Leandro contractors and subcontractors awarded work on the Projects may request by name, and the local will honor, referral of persons who have applied to the local union for Project work and who demonstrate the following qualifications:

- (1) possess any license required by state or federal law for the Project work to be performed;
- (2) have worked a total of at least one thousand (1,000) hours in the construction craft during the prior three (3) years;
- (3) were on the Contractor's active payroll for at least sixty (60) out of the one hundred and twenty (120) calendar days prior to the contract award;
- (4) have the ability to perform safely the basic functions of the applicable trade, and
- (5) are San Leandro residents.

The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft, and will then refer one of such Contractor's "core" employees as a journeyman and shall repeat the process, one and one, until such Contractor's crew requirements are met or until such Contractor has hired five (5) "core" employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor's work the ratio shall be maintained and when the Contractor's workforce is

reduced, employees shall be reduced in the same ratio of core employees to hiring hall referrals as was applied in the initial hiring.

8.2.3 The Contractor shall notify the appropriate Union of the name and social security number of each direct hire and each direct hire shall register with the Union's hiring hall before commencing Project work. If there is any question regarding an employee's eligibility under this Subsection, the City Representative, at a Union's request, shall obtain satisfactory proof of such from the Contractor.

8.2.4 To the extent allowed by law and consistent with the non-discriminatory referral procedures of the Union hiring halls, the Parties agree to a goal that San Leandro Residents shall perform a minimum of 30% of the hours worked, on a craft by craft basis, on the Projects. In the event that no San Leandro residents are available to fulfill the 30% local hire requirement, the next tier of residents shall come from anywhere in Alameda County. The Contractor(s) shall make good faith efforts to reach this goal through the utilization of the Unions' hiring hall procedures. The Unions shall exercise their best efforts in their recruiting and training of San Leandro Resident workers and in their hiring hall procedures to facilitate this 30% goal.

8.2.5 Should any Contractor performing work on the Projects exceed the 30% local hire goal as set forth in this Agreement, they shall be acknowledged by the City Council for their efforts.

8.3 Apprenticeship Provision:

8.3.1 Consistent with the requirements of California Labor Code §§ 1776, 1777.5 and 1777.6, Prime Contractor(s), and or their sub-contractors shall hire 1 San Leandro resident as a New Apprentice for the first 1 million dollars of the total bid amount. Thereafter, for every 5 million dollars of the total bid amount the Prime Contractor and their Sub-contractors will be required to hire one additional New Apprentice. The New Apprentice(s) must work a minimum of 10% of the project's work hours. The contractor may employ the apprentice on a different concurrent project in order to meet the minimum hours, and those hours will be counted towards the total hours of the craft on the San Leandro project. Certified Payrolls must reflect the hours worked by persons that fall under this Subsection.

8.3.2 There shall be no more than 1 entry-level apprentice for each craft, provided said crafts have apprenticeship openings and the general contractor is able to include entry-level apprentices hired by their subcontractors to meet this requirement. The City, upon request, will refer names of graduates of workforce development programs to the Unions and Contractors and the Unions will agree to cooperate with Contractor(s) to furnish apprentices as requested. The hiring of apprentices will be in accordance with the Apprenticeship provisions of the applicable Master Agreements and the standards and procedures of the applicable JATC program approved by the division of apprenticeship standards. Apprentices shall be properly supervised and paid in accordance with provisions contained within the Master Agreements.

8.3.4 The intent of this provision is to utilize San Leandro Resident First Period Apprentices to the fullest extent permissible by state law and the Master Agreements. Failure of Contractor(s) and their subcontractors to maintain qualified apprentices on the job will be subject to Division of Apprenticeship Standards penalties, and further penalties as determined by the Joint Administrative Committee.

8.4 Should any of the contractors performing work on the Projects fail to meet this 30% local goal and the apprenticeship requirements set forth in this article or fail to demonstrate "good

faith" efforts to do so, through a specific submittal process to be included in their contractual requirements, the City reserves the right to withhold the 5% retention on current progress payments until such time that this failure is remedied, but not longer than ninety (90) days after the date of substantial completion of the Projects or as required by law. However, Enforcement of this Article will be through the Grievance Procedure set forth in Article 11.

ARTICLE 9

GRIEVANCE PROCEDURE

9.1 All disputes involving discipline and/or discharge of employees working on the Project shall be resolved through the grievance and arbitration provision contained in the Master Agreement for the craft of the affected employee. No employee working on the Project shall be disciplined or dismissed without just cause.

ARTICLE 10

JOINT ADMINISTRATIVE COMMITTEE

10.1 The parties to this Agreement shall establish a five (5) person Joint Administrative Committee. This Committee shall be comprised of two (2) representatives selected by the City; two (2) representatives of the signatory Unions and Alameda County Building and Construction Trades Council; and one (1) industry representative, mutually selected by the City and the Alameda County Building and Construction Trades Council. Each representative shall designate an alternate who shall serve in his or her absence for any purpose contemplated by this Agreement.

10.2 The Joint Administrative Committee shall meet as required, but not less than once each quarter, to review the implementation of the Agreement and the progress of the Projects including, but not limited to, compliance with Article 8, prevailing wage, safety, craft workforce levels and construction progress. Requests for certified payrolls from the Joint Labor/Management Committee to which the Union(s) signatory to this Agreement are a party shall be provided as required by law.

ARTICLE 11

GRIEVANCE ARBITRATION PROCEDURE

11.1 The parties understand and agree that in the event any dispute arises out of the meaning, interpretation or application of the provisions of this Agreement, the same shall be settled by means of the procedures set forth herein. No grievance shall be recognized unless the grieving party provides notice in writing to the signatory party with whom it has a dispute within seven (7) calendar days after becoming aware of the dispute, but in no event more than thirty (30) calendar days after it reasonably should have become aware of the event causing the dispute. The time limits in this Article 11 may be extended by mutual written agreement of the parties.

11.2 Grievances shall be settled according to the following procedures:

Step 1: Within seven (7) calendar days after the receipt of the written notice of grievance, the necessary parties to the grievance, including but not limited to the Business Representative of the involved Local Union, or the City's authorized representative or his/her designee, or the representative of the construction person, or the representative of the involved Contractor shall confer and attempt to resolve the grievance.

Step 2: In the event that the representatives are unable to resolve the dispute within seven (7) calendar days after its referral to Step 1, either involved party may submit the dispute within three (3) calendar days to a subcommittee of the Joint Administrative Committee consisting of one (1) person selected by the City and one (1) person selected by the Council, which shall meet within seven (7) calendar days after such referral (or such longer time as mutually agreed upon by all representatives of the subcommittee), to confer in an attempt to resolve the grievance. If there is a unanimous decision by the subcommittee, the decision will be binding on all parties. The Union(s) shall notify its International Union representative(s), which shall advise both parties if it intends on participating in a Step 2 meeting. If the dispute is not resolved within such time (seven (7) calendar days after its referral or such longer time as mutually agreed upon) it may be referred within seven (7) calendar days by either party to Step 3.

Step 3: In the event the matter is not settled or otherwise resolved in a final and binding manner by the Committee, either party may demand arbitration. The parties shall provide a list to each other of their preferred arbitrators. The parties shall flip a coin to determine who shall strike the first name and shall then alternatively strike names from the list and the last remaining name shall be the neutral third party arbitrator who shall have the power to resolve the dispute in a final and binding manner. The costs of the arbitration shall be evenly split by the parties with each bearing the cost of their own legal counsel. Upon mutual agreement of the parties, the matter may be heard on an expedited basis, by telephone or other electronic means, and the arbitrator may render a "bench decision".

11.3 The Arbitrator shall arrange for a hearing no later than fourteen (14) calendar days after the matter has been submitted to arbitration. A decision shall be given to the parties within five (5) calendar days after completion of the hearing unless such time is extended by mutual agreement. A written opinion may be requested by a party from the Arbitrator. The time limits specified in any step of the Grievance Procedure set forth in Section 11.2 may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without the request for an extension of time, shall be deemed a waiver of such grievance without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

11.4 The decision of the Arbitrator shall be binding upon all parties. The Arbitrator shall not have authority to change, amend, add, or detract from any of the provisions of the Agreement. The expenses of the Arbitrator shall be borne equally by both parties.

11.5 In order to encourage the resolution of disputes and grievances at Step 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent setting.

11.6 Retention: At the time a grievance is submitted under this Agreement or any Master Agreement, the Union(s) may request that the City withhold and retain an amount from what is due and owing to the Contractor(s) against whom the grievance is filed, sufficient to cover the damages alleged in the grievance, should the Union(s) prevail. The amount shall be retained by the City until such time as the underlying grievance giving rise to the retention is withdrawn, settled, or otherwise resolved, and the retained amount shall be paid to whomever the parties to the grievance shall decide, or to whomever an Arbitrator shall so order.

ARTICLE 12

WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

12.1 The assignment of Covered Work will be solely the responsibility of the Contractor/Employer(s) performing the work involved. However, such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

12.2 All jurisdictional disputes on the Projects between or among the Union(s) shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department, or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractor/Employer(s) and Union(s) parties to this Agreement.

12.2.1 If a dispute arising under this Article involves the Northern California Carpenters Regional Council or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch and Thomas Pagan and the Arbitrator's hearing on the dispute shall be held at the offices of the California State Building and Construction Trades Council in Sacramento, California, within fourteen (14) calendar days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

12.3 All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Contractor/Employer(s)' assignment shall be adhered to until the dispute is resolved. Individuals violating this Section shall be subject to immediate discharge.

12.4 Each Contractor/Employer(s) shall conduct a Pre-Job Conference with the Council prior to commencing Covered Work. Pre-job conferences for different Contractor(s) may be held together.

ARTICLE 13

APPRENTICES

13.1 Recognizing the need to develop adequate numbers of competent workers in the construction industry, the Contractor/Employer(s) shall employ apprentices from California State-approved Joint Apprenticeship Programs in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are

indentured.

13.2 Contractors shall at all times comply with the applicable provisions of the California Labor Code, the payment of prevailing wages, the registration of contractors and subcontractors, and the hiring of apprentices, in addition to the requirements of Article 8.

13.3 The apprentice ratios will be in compliance with the applicable provisions of the California Labor Code and Prevailing Wage Rate Determinations.

13.4 HELMETS TO HARDHATS:

13.4.1 The Contractor(s)/Employer(s) and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Contractor(s)/ Employer(s) and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center) and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

13.4.2 The Unions and Contractor(s)/Employer(s) agree to coordinate with the Center to participate in an integrated database of veterans interested in working on the Projects and of apprenticeship and employment opportunities for the Projects. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

ARTICLE 14

MANAGEMENT RIGHTS

14.1 The Contractor shall retain full and exclusive authority for the management of its operations, including the right to direct its work force in its sole discretion except as otherwise limited by the terms of this agreement and/or Schedule A Agreements. No roles, customs or practices shall be permitted or observed that limit or restrict production, or limit or restrict the working efforts of construction persons except that the lawful provisions of the Schedule A Agreements shall be recognized.

ARTICLE 15

WAGES/BENEFITS

15.1 All Contractor(s)/Employer(s) agree to pay contributions to the vacation, pension and other form of deferred compensation plan, apprenticeship, worker protection and assistance, and health benefit funds established by the applicable Master Agreement for each hour worked on the Project in the amounts designated in the Master Agreements of the appropriate local Unions.

15.2 By signing this Agreement, the Contractor(s)/Employer(s) adopt and agree to be bound by the written terms of the legally established trust agreements and which may from time to time be amended, specifying the detailed basis on which payments are to be made into, and benefits

paid out of, such Trust Funds. The Contractors authorize the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratify and accept the trustees so appointed as if made by the Contractor(s). The Contractor(s) agrees to execute a separate Subscription Agreement(s) for Trust Funds when such Trust Fund(s) requires such document(s).

15.3 Wages, Hours, Terms and Conditions of Employment: The wages, hours and other terms and conditions of employment on the Project shall be governed by the Master Agreement of the respective crafts, to the extent such Master Agreement is not inconsistent with this Agreement. Where a subject is covered by the Master Agreement and not covered by this Agreement, the Master Agreement will prevail. When a subject is covered by both the Master Agreement and this Agreement, to the extent there is any inconsistency, this Agreement will prevail.

15.4 Holidays: Holidays shall be established as set forth in the applicable Schedule A.

15.5 If a contractor fails to pay wages, the City agrees to honor a properly submitted, legally enforceable Stop Notice.

ARTICLE 16

MODIFIED SCHEDULE A AGREEMENTS

16.1 Certain Provisions Shall Not Apply. Provisions negotiated into the new or modified Schedule A Agreements which are less favorable to the Contractor than those uniformly required of employers for construction work normally covered by those agreements or which may be construed to apply exclusively or predominantly to work covered by this Agreement shall not apply to work covered by this Agreement. Any disagreement between the parties regarding the application of the provisions of any new or modified collective bargaining agreement to work covered by this Agreement shall be resolved under the dispute and grievance arbitration procedures set forth in Article 12 hereof.

ARTICLE 17

SAVINGS CLAUSE

17.1 The parties agree that in the event any article, provision, clause, sentence or word of this Agreement is determined to be illegal or void as being in contravention of any applicable law, by a court of competent jurisdiction, the remainder of the Agreement shall remain in full force and effect. The parties further agree that if any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void, by a court of competent jurisdiction, the parties shall substitute, by mutual agreement, in its place and stead, an article, provision, clause, sentence or word which will meet the objections to its validity and which will be in accordance with the intent and purpose of the article, provision, clause, sentence or word in question.

17.2 The parties also agree that in the event that a decision of a court of competent jurisdiction materially alters the terms of this Agreement such that the intent of the parties is defeated, then the entire Agreement shall be null and void.

ARTICLE 18

ENTIRE AGREEMENT

18.1 This Agreement, together with the referenced Schedule A Agreements, represents the complete understanding of the parties: The provisions of this Agreement, including the Schedule A Agreements, shall apply to the work covered by this Agreement. Where a subject covered by the provisions of this Agreement is also covered by a Schedule A Agreement, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a Schedule A Agreement and is not covered by this Agreement, the provisions of the Schedule A Agreement shall prevail. Nothing contained in a Schedule A Agreement, working rule, by-law, constitution or other similar document of the Unions shall in any way affect, modify or add to this Agreement unless otherwise specifically set forth in this Agreement or mutually agreed to in a writing executed by the parties.

18.2 The parties agree that this Agreement covers all matters affecting wages, hours, and other terms and conditions of employment and that during the term of this Agreement the parties will not be required to negotiate on any further matters affecting these or any other subjects not specifically set forth in this Agreement except by mutual agreement of the parties.

18.3 This Agreement may be executed in counterparts, such that original signatures may appear on separate pages and when bound together all necessary signatures shall constitute an original. Facsimile and PDF signature pages transmitted to the other parties to this Agreement shall be deemed the equivalent to original signatures.

ARTICLE 19

TERM

19.1 The Agreement shall be included as a condition of the award of the Construction Contracts.

19.2 The Agreement shall be effective as of January 1, 2016 ("Effective Date").

19.3 The Agreement shall continue in full force and effect for a term of three years from the Effective Date and shall be applicable to all Projects bid during the term until completion.

ARTICLE 20

COMPLIANCE

20.1 It shall be the responsibility of the Contractor(s) and Unions to investigate and monitor compliance with the provisions of this agreement contained in Article 15. Nothing in this

agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Contractors on the Project. The City shall monitor compliance with the prevailing wage requirements of the state, and the Contractors/Employers' compliance with this Agreement.

20.2 DRUG & ALCOHOL TESTING:

20.2.1 The use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms at any time during the work day is prohibited.

20.2.2 Drug and alcohol testing shall be conducted in accordance with the Substance Abuse Prevention Policies set forth in each applicable Schedule A.

City of San Leandro

By:  _____ Date: December 10, 2020 | 10:14:27 AM PST

Alameda County Building & Construction Trades Council, AFL-CIO

By: _____ Date: _____

Signatory Unions

Asbestos Workers, Local 16

Boilermakers, Local 549

By: _____ By: _____

Bricklayers & Allied Craftsmen,

Local 3 Cement Masons, Local 300

By: _____ By: _____

Electrical Workers, Local 595

Elevator Constructors, Local 8

By: _____ By: _____

Hod Carriers, Local 166

Iron Workers, Local 378

By: _____ By: _____

Laborers, Local 67

Laborers, Local 304

By: _____ By: _____

Operating Engineers,

Local 3 Plasterers, Local 66

By: _____ By: _____

Roofers, Local 81

Sheet Metal Workers, Local 104

By: _____ By: _____

Sign Display, Local 510

Sprinkler Fitters, Local 483

By: _____ By: _____

Teamsters, Local 853

United Association of Journeymen and Apprentices
Fitting Industry, Underground Utility & Landscape, Local
355

By: _____ By: _____

United Association of Steamfitters, Plumbers, & Gas Fitters, Local 342

By: _____ By: _____

Council No. 16 Northern California

Painters & Allied Trades (On behalf
of Painters, Local 3; Carpet & Linoleum
Layers, Local 12; Glass Workers, Local
169; Auto& Marine Painters, Local 1176)

By: _____

**Northern California Carpenters
Regional Council** (on behalf of Carpenters,
Local 713; Carpenters, Local 2236; Lathers,
Local 68L; Millwrights, Local 102; Pile
Drivers, Local 34)

By: _____

EXHIBIT A

City of San Leandro Community Workforce Agreement

AGREEMENT TO BE BOUND

The undersigned, as a Contractor or Subcontractor ("Contractor") on a City Project ("Project"), for and in consideration of the award to it of a contract to perform work on said Project, and in further consideration of the mutual promises made in the Project's Community Workforce Agreement ("Agreement"), a copy of which was received and is acknowledged, hereby:

- 1. Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all amendments and supplements now existing or which are later made to said Agreement.
2. Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said Agreement;
3. Agrees to secure from any Contractor (as defined in said Agreement) which is or becomes a subcontractor (of any tier) to it, and from any successors, a duly executed Agreement to be bound in form identical to this document.
4. Contractor agrees that it shall be bound by all applicable trust agreements and plans for the provision of such fringe benefits as accrue to the direct benefit of the construction persons, including Health and Welfare, Pension, Training, Vacation, and/or other direct benefits provided pursuant to the appropriate craft's Schedule "A" Agreement as set forth in Article 15, as they may from time to time be amended, specifying the detailed basis upon which contributions are to be made into, and benefits made out of, such trust funds, and ratifies and accepts the trustees appointed by the parties to such trust funds. The undersigned party agrees to execute a separate Subscription Agreement(s) when such Trust Fund(s) requires such document(s).

This letter shall constitute a subscription agreement, to the extent of the terms of the letter.

Date: 12/10/20

Company Name: Climatec

Name of Prime Contractor or Higher Level Subcontractor: Climatec

Name of Project: WPCP Project

Signature: Steve Siverson

Print Name: Steve Siverson

Title: VP

Contractor's License # or Motor Carrier (CA) Permit Number: 426806.1 2447392.1

Attachment “D”

Insurance

INSURANCE REQUIREMENTS. Before fully executing this Agreement, Consultant, at its own cost and expense, unless otherwise specified below, shall procure the types and amounts of insurance listed below against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Consultant and its agents, representatives, employees, and subcontractors. Consistent with the following provisions, Consultant shall provide proof satisfactory to City of such insurance that meets the requirements of this section and under forms of insurance satisfactory in all respects, and that such insurance is in effect prior to beginning work. Consultant shall maintain the insurance policies required by this section throughout the term of this Agreement. The cost of such insurance shall be included in the Consultant's bid or proposal. Consultant shall not allow any subcontractor to commence work on any subcontract until Consultant has obtained all insurance required herein for the subcontractor(s) and provided evidence to City that such insurance is in effect. VERIFICATION OF THE REQUIRED INSURANCE SHALL BE SUBMITTED AND MADE PART OF THIS AGREEMENT PRIOR TO EXECUTION. Consultant shall maintain all required insurance listed herein for the duration of this Agreement.

1. **Workers' Compensation.**

1.1. **General Requirements.** Consultant shall, at its sole cost and expense, maintain Statutory Workers' Compensation Insurance and Employer's Liability Insurance for any and all persons employed directly or indirectly by Consultant. The Statutory Workers' Compensation Insurance and Employer's Liability Insurance shall be provided with limits of not less than \$1,000,000 per accident. In the alternative, Consultant may rely on a self-insurance program to meet these requirements, but only if the program of self-insurance complies fully with the provisions of the California Labor Code. Determination of whether a self-insurance program meets the standards of the California Labor Code shall be solely in the discretion of the Contract Administrator.

The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the entity for all work performed by the Consultant, its employees, agents, and subcontractors.

1.2 **Submittal Requirements.** To comply with Subsection 4.1, Consultant shall submit the following:

- a. Certificate of Liability Insurance in the amounts specified in the section; and
- b. Waiver of Subrogation Endorsement as required by the section.

2. **Commercial General and Automobile Liability Insurance.**

2.1 **General Requirements.** Consultant, at its own cost and expense, shall maintain commercial general liability insurance for the term of this Agreement in an amount

not less than \$5,000,000 and automobile liability insurance for the term of this Agreement in an amount not less than \$5,000,000 per occurrence, combined single limit coverage for risks associated with the work contemplated by this Agreement. An umbrella policy in the amount of an additional \$5,000,000 will supplement the policy coverage limits. If a Commercial General Liability Insurance or an Automobile Liability form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Agreement or the general aggregate limit shall be at least twice the required occurrence limit. Such coverage shall include but shall not be limited to, protection against claims arising from bodily and personal injury, including death resulting therefrom, and damage to property resulting from activities contemplated under this Agreement, including the use of owned and non-owned automobiles.

2.2 **Minimum Scope of Coverage.** Commercial general coverage shall be at least as broad as Insurance Services Office Commercial General Liability occurrence form CG 0001 (most recent edition) covering comprehensive General Liability on an "occurrence" basis. Automobile coverage shall be at least as broad as Insurance Services Office Automobile Liability form CA 0001, Code 1 (any auto). No endorsement shall be attached limiting the coverage.

2.3 **Additional Requirements.** Each of the following shall be included in the insurance coverage or added as a certified endorsement to the policy:

- a. The Insurance shall cover on an occurrence or an accident basis, and not on a claims-made basis.
- b. City, its officers, officials, employees, and volunteers are to be covered as additional insureds as respects: liability arising out of work or operations performed by or on behalf of the Consultant; or automobiles owned, leased, hired, or borrowed by the Consultant.
- c. Consultant hereby agrees to waive subrogation which any insurer or contractor may require from vendor by virtue of the payment of any loss. Consultant agrees to obtain any endorsements that may be necessary to effect this waiver of subrogation.
- d. For any claims related to this Agreement or the work hereunder, the Consultant's insurance coverage shall be primary insurance as respects the City, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.

2.4 **Submittal Requirements.** To comply with Subsection 4.2, Consultant shall submit the following:

- a. Certificate of Liability Insurance in the amounts specified in the section;
- b. Additional Insured Endorsement as required by the section;
- c. Waiver of Subrogation Endorsement as required by the section; and
- d. Primary Insurance Endorsement as required by the section.

3. **Professional Liability Insurance.**

3.1 **General Requirements.** Consultant, at its own cost and expense, shall maintain for the period covered by this Agreement professional liability insurance for licensed professionals performing work pursuant to this Agreement in an amount not less than \$1,000,000 covering the licensed professionals' errors and omissions. Any deductible or self-insured retention shall not exceed \$150,000 per claim.

3.2 **Claims-Made Limitations.** The following provisions shall apply if the professional liability coverage is written on a claims-made form:

- a. The retroactive date of the policy must be shown and must be before the date of the Agreement.
- b. Insurance must be maintained and evidence of insurance must be provided for at least 5 years after completion of the Agreement or the work, so long as commercially available at reasonable rates.
- c. If coverage is canceled or not renewed and it is not replaced with another claims-made policy form with a retroactive date that precedes the date of this Agreement, Consultant shall purchase an extended period coverage for a minimum of 5 years after completion of work under this Agreement.
- d. A copy of the claim reporting requirements must be submitted to the City for review prior to the commencement of any work under this Agreement.

3.3 **Additional Requirements.** A certified endorsement to include contractual liability shall be included in the policy.

3.4 **Submittal Requirements.** To comply with Subsection 4.3, Consultant shall submit the Certificate of Liability Insurance in the amounts specified in the section.

4. **Builders' Risk Insurance.**

4.1 **General Requirements.** Contractor will cause to be taken out and maintain in the name of the City and the Contractor until final completion and acceptance of the project: All Risk Builder's Risk Insurance, including but not limited to coverage against

loss or damage to the project by fire and lightening, extended coverage, vandalism, malicious mischief, flood, earthquake, and collapse; said extended coverage shall cover loss or damage by explosion, windstorm, riot, aircraft, vehicle damage, smoke, and other such hazards as are normally covered by such coverage. Such insurance (except the earthquake and flood coverage in the event that they are not fully or reasonably available) shall be in an amount equal to the replacement cost (without deduction for depreciation and subject to stipulated value in lieu of average clause) of all structures constituting any part of the work, excluding the cost of excavations, of grading, and of filling of the land, and except that such insurance (except earthquake and flood insurance) may be subject to deductible clauses not to exceed \$10,000 for any one loss. Earthquake and flood insurance may be subject to deductible clauses not to exceed five percent (5%) of such replacement cost for any one loss. Such insurance will not cover loss or damage to the Contractor's equipment, scaffolding, or other materials not to be consumed in the construction of the project. The Contractor shall obtain from the insurer a waiver of subrogation endorsement for losses caused by fire or other perils to the extent covered by this insurance. Contractor shall pay any extra premium required therefore.

5. **Environmental Insurance.**

5.1 **General Requirements.** Contractor shall purchase and maintain liability insurance with coverage, as further specified below, for losses arising from or in any way related to pollution conditions, both sudden and non-sudden (gradual), which arise from or in connection with the Contractor's transportation services and any disposal facilities used in connection with the underlying Agreement. The required insurance coverage shall be endorsed to cover Non-Owned Disposal Sites. The Contractor's insurance shall include:

- A. Contractors Pollution Liability - limit \$3,000,000 per loss and \$6,000,000 in the aggregate,
- B. Environmental Transportation Liability insurance; provided, however, if the Contractor does not maintain a separate policy evidencing pollution liability coverage in relation to the Contractor's transportation services, then the Contractor's CPL insurance policy must be endorsed so as to satisfy the minimum scope of coverage related to the Contractor's transportation services with limit \$3,000,000 per loss and \$6,000,000 in the aggregate

6. **All Policies Requirements.**

- 6.1 **Acceptability of Insurers.** All insurance required by this section is to be placed with insurers with a Bests' rating of no less than A:VII.
- 6.2 **Verification of Coverage.** Prior to beginning any work under this Agreement, Consultant shall furnish City with complete copies of all Certificates of Liability Insurance delivered to Consultant by the insurer, including complete copies of all endorsements attached to the policies. All copies of Certificates of Liability Insurance and certified endorsements shall show the signature of a person authorized by that insurer to bind coverage on its behalf. If the City does not receive the required insurance documents prior to the Consultant beginning work,

it shall not waive the Consultant's obligation to provide them. The City reserves the right to require complete copies of all required insurance policies at any time.

Deductibles and Self-Insured Retentions. Consultant shall provide a financial guarantee letter satisfactory to the City guaranteeing payment of retentions and deductibles.

- 6.3 **Wasting Policies.** No policy required by this Section 4 shall include a "wasting" policy limit (i.e. limit that is eroded by the cost of defense) except for Professional Liability.
 - 6.4 **Endorsement Requirements.** Each insurance policy required by Section 4 shall be endorsed to state that coverage shall not be canceled by either party, except after 30 days' prior written notice has been provided to the City.
 - 6.5 **Subcontractors.** Consultant shall include all subcontractors as insureds under its policies or shall furnish separate certificates and certified endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.
7. **Submittal of Proof of Insurance Coverage.** All certificates of insurance and original endorsements effecting coverage required in this Section 4 must be electronically submitted through the City's online insurance document management program, PINS Advantage. Contractor shall comply with all requirements provided by City related to the PINS Advantage program.
 8. **Remedies.** In addition to any other remedies City may have if Consultant fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time herein required, City may, at its sole option exercise any of the following remedies, which are alternatives to other remedies City may have and are not the exclusive remedy for Consultant's breach:
 - Obtain such insurance and deduct and retain the amount of the premiums for such insurance from any sums due under the Agreement;
 - Order Consultant to stop work under this Agreement or withhold any payment that becomes due to Consultant hereunder, or both stop work and withhold any payment, until Consultant demonstrates compliance with the requirements hereof; and/or
 - Terminate this Agreement.