



T1XX ASSEMBLY LINE

Proposal #4187D

Unless otherwise agreed to in writing, all concepts and information contained within this proposal are to remain confidential between ABC Inoac and Alliance Automation, LLC.

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1.0 RFQ SUMMARY

██████████ has requested the following requirements for the T1XX Assembly Line.

1.1 The assembly line will run one assembly part type. Part type will have multiple colors.

1.2 Part Assembly Bill of Material

1.2.1 (1) Spoiler Outer

1.2.2 (1) Spoiler Inner

1.2.3 (6) J-Clip

1.2.4 (4) T-Nut

1.2.5 (1) LH Isolator

1.2.6 (1) RH Isolator

1.2.7 (2) Plastic W-Clip

1.2.8 (6) M4.2 Screws – for Inner to Outer Spoiler

1.2.9 (4) M5 Screws – for CHMSL Mount

1.2.10 (1) Lamp ASM: High Mt Stop & Cargo

1.2.11 (1) Round Foam Seal

1.2.12 (2) Long Seals

1.2.13 (1) Wiring Harness – without Camera

1.3 Spoiler Size

1.3.1 Spoiler Outer = 56.5" x 7.2" x 4.6"

1.3.2 Spoiler Inner = 56.2" x 6.8" x 4.2"

1.4 Assembly Line Cycle Time

- Tack Time = 50 seconds

2.0 SYSTEM DESCRIPTION

- 2.1 Alliance Automation will provide [REDACTED] with (2) turn-key T1XX Assembly Lines. The assembly lines will be identical. The assembly lines will be installed over two separate installation dates. The assembly lines will be installed at [REDACTED] located at [REDACTED].
- 2.2 Major items are described below. A detailed list of components is provided in Section 3.0.
- 2.3 A Bosch Rexroth Over/Under pallet conveyor system will be used to transport parts on pallets between (7) operation stations. The conveyor length will be 61 feet (18.6M) long. This length includes (2) vertical transfer units. Each operation will have 80" of conveyor length.
- 2.4 Alliance Automation will supply (13) pallets for each line. The conveyor system will require (11) pallets to run. Each line will require (6) operators. This does not include a person to supply parts to the system.
- 2.5 The overhead structure, station framing, and guarding will be made from extruded aluminum.
- 2.6 Each assembly line will be supplied with a standalone control system. The control system will be an Allen Bradley Control Logix. The control hardware will be mounted in a free standing (2) door electrical enclosure.
- 2.7 A computer station will be provided and located near the start of the assembly line. The computer will provide the following functions: product recipe management, production line scheduling, and the product build history database.
- 2.8 Each operation station will be supplied with the following common components: (1) electrical junction box, (1) SMC Remote Input/Output unit, (1) Three color stack light with an audio alarm, (1) Balluff RFID Badge Reader, (1) Five hole button box with (1) Emergency Stop, (1) Opto-Touch Pallet release button, (1) Reset button, and (1) Reject button, (2) Overhead LED lights, and (3) Part totes.
- 2.9 Operations 1, 3, and 7 will be supplied with a bar code scanner. The bar code scanner will be mounted to provide a fixed scanner function as well as a hand held scanner. The hand held scanner communicates wireless to the scanner base. The scanner base is wired to the controlled system via Ethernet.
- 2.10 Operations 3 and 4 will be supplied with an Ingersoll Rand screw drive system. The screw drive controller will provide torque and angle feedback for each screw. The screw gun will be mounted on an overhead tool balancer.
- 2.11 Operation 3 and 7 will be supplied with a separate bar code scanner to verify the bar code color label.
- 2.12 A mode will be supplied to verify the error detection sensors (red rabbit check) at Operation #6.
- 2.13 Sensors will be used to detect the presence of the RH isolation strip and the LH isolation strip before a pallet will be allowed to exit Operation #1. One sensor will be used per strip.
- 2.14 Operation 7 will be supplied with an Intermec PC43t Bar Code Printer
- 2.15 Each line will be supplied with (2) 55" Samsung LCD monitors and mounts.

3.0 EXCEPTIONS TO RFQ

- 3.1 The assembly lines will be designed and built to the RFQ titled "T1XXS Assembly Lines" provided by [REDACTED] with the exceptions noted below.
 - 3.1.1 Section 1.k. – Station operations will be fixed. Alliance Automation can provide a quote for engineering and programming changes in the event [REDACTED] requires station operations to be different.
 - 3.1.2 Section 2 – Omit "Pallet and nest to accommodate C1UL & C1UG"
 - 3.1.3 Section 4.b.ii – [REDACTED] is responsible for all network programming to access the Alliance Automation supplied database.
 - 3.1.4 Section 5.e – This system does not have an offline tester.
 - 3.1.5 Section 5.r – Alliance Automation is providing CHMSL testing and Back Up Camera testing. CHMSL testing will check for wire continuity at the connector. Back-up camera testing will allow an operator to accept or reject the camera based upon an image viewed with a monitor. Alliance Automation reserves the right to quote additional costs if new testing specifications for the CHMSL or Camera are received after submitting this RFQ.
 - 3.1.6 Section 6.p and 6.r. – The database report functions will be limited to the capabilities of the provided Microsoft Office database program.
 - 3.1.7 Section 6.s.xii – Adding a new station in the future will require PLC programming.
 - 3.1.8 The system costing does not include any pack out process or dunnage.

4.0 SYSTEM COMPONENTS

4.1 (2) Over/Under Bosch Rexroth TSPlus Pallet Conveyor System

- (2) Drive Units
- (2) Return Units
- (2) Transvers Conveyor for Vertical Transfer Units
- (14) 2M Conveyor Section
- (8) Over/Under Leg Set
- (1) Lift and Locate System
- (2) Pneumatic Shot Pin for Lift and Locate
- (9) Cushion Stop
- (9) Proximity Sensors
- (2) Alliance Custom Vertical Elevators
- (2) Safety Light Curtain

4.2 (26) Part Pallet

- (1) Custom Pallet consisting of (2) Bosch Pallets (480mm x 320mm) and (1) 1524mm x 32mm x 12.7mm aluminum fixture plate.
- (1) Custom Part Fixture
- (1) RFID Read/Write Tag
- (2) Manual Part Clamps

4.3 (2) Main Control System

- (1) Allen Bradley Control Logix Processor System
- (9) RFID Readers
- (1) 2-Door Free Standing Electrical Enclosure
- (1) Laptop Fold Down Shelf Mounted to Enclosure
- (3) Pneumatic Air Supply Lines with Quick Disconnects Mounted to Front of Line

- 4.4 (2) Supervisory Computer System
 - (1) Portable Computer Console Enclosure
 - (1) Windows Based PC with Microsoft Office Professional
 - (1) SQL Server Software
 - (1) Allen Bradley Factory Talk Transaction Manager Software
 - (1) Microsoft Office Professional
 - (2) 55" Samsung LCD Andon Monitors

- 4.5 (14) Operation Base Components for OP 1 thru 7
 - (1) Extruded Aluminum Base Frame
 - (1) Extruded Aluminum Overhead Frame
 - (1) Allen Bradley 1200 Operator Interface and Enclosure
 - (1) Balluff RFID Reader – Fixed Mounted
 - (1) Three Color Stack Light with Audio Alarm
 - (1) 5-hole Push Button Box
 - (1) Emergency Stop Button
 - (1) Opto-Touch Pallet Release Button
 - (1) Reset Button
 - (1) Reject Button
 - (1) Spare Hole
 - (1) Electrical Junction Box
 - (1) SMC Remote I/O Unit
 - (1) 8 Port Ethernet Switch
 - (6) 110VAC Outlet
 - (3) Ethernet Port
 - (4) Ethernet/IP Port
 - (1) Ethernet Cat Port
 - (3) Part Tote – mounted to frame
 - (2) Overhead LED Light

- 4.6 (2) Operation 1 Added Components
 - (1) Wireless Hand Held Bar Code Scanners w/Ethernet Base
 - (2) Sensors to Detect Isolator Strips

- 4.7 (2) Operation 2 Added Components
 - (1) Ingersoll Rand Screw Drive System
 - (1) #IC12D1A1AWS Controller with Display
 - (1) In-Line Lever Start Spindle, 1-10Nm
 - (1) 3M Tool Cable
 - (1) Tool Balancer
 - (1) Driver Docking Station and Sensor

- 4.8 (2) Operation 3 Added Components
 - (1) Ingersoll Rand Screw Drive System
 - (1) Controller with Display
 - (1) In-Line Lever Start Spindle, 1-10Nm
 - (1) 3M Tool Cable
 - (1) Tool Balancer
 - (1) Driver Docking Station and Sensor
 - (1) Wireless Hand Held Bar Code Scanners w/Ethernet Base
 - (1) Bar Code Scanner to Read Color Label

- 4.9 (2) Operation 6 Added Components
 - (2) Keyence Vision Cameras
 - (2) Vision Lighting

- 4.10 (2) Operation 7 Added Components
 - (1) Wireless Hand Held Bar Code Scanners w/Ethernet Base
 - (1) Bar Code Scanner to Read Color Label
 - (1) Intermec PC43t Bar Code Printer
 - (1) Wire Harness Test Connector

5.0 ALLIANCE AUTOMATION STANDARD DOCUMENTATION

5.1 Mechanical Documentation (1 electronic copy)

- 5.1.1 Mechanical CAD drawings
- 5.1.2 Cell Layout
- 5.1.3 Assembly Prints
- 5.1.4 Detail Prints
- 5.1.5 Spare Parts List

5.2 Controls Documentation (1 electronic copy)

- 5.2.1 Electrical CAD drawings (1 electronic copy)
- 5.2.2 Panel layouts
- 5.2.3 I/O
- 5.2.4 AC/DC power distribution
- 5.2.5 PLC program
- 5.2.6 HMI program

5.3 Alliance Automation will provide written start up instructions and troubleshooting guides as standard documentation.

6.0 ALLIANCE AUTOMATION PROJECT MANAGEMENT

- 6.1 Each project at Alliance Automation is assigned a Project Manager, Mechanical Engineer and Controls Engineer.
- 6.2 Upon awarding of the project, a meeting will be scheduled to review the design concept, system operation, customer obligations to Alliance Automation, and customer expectation of Alliance Automation.
- 6.3 Additional design review meetings, as determined by the design team, will be scheduled with times convenient to both the customer and Alliance Automation. All design review meetings must occur prior start of manufacturing.
- 6.4 The customer may direct their communications to any of the Alliance team, however the official contact will be the Project Manager.
- 6.5 The project team will meet upon an agreed basis to review the schedule, review milestones, and identify any problems.

- 6.6 Project Resources
 - 6.6.1 The Project Manager is responsible for acting as the main point of communication with the customer, project schedule, resources, and informing the Mechanical and Controls Engineer of any project changes.
 - 6.6.2 The Mechanical Engineer is responsible for the Mechanical design of the equipment, ensures adherence to the customer's specifications, and enforces ANSI, OSHA and Alliance Automation standards. The Mechanical Engineer is also responsible for monitoring the manufacturing of details and fielding questions from the shop as well as directing the assembly technicians during the assembly and debug of the equipment.
 - 6.6.3 The Controls Engineer is responsible for the Controls design of the equipment, ensures adherence to the customer's specifications, and enforces NEC, OSHA and Alliance Automation standards. The Controls Engineer is also responsible for monitoring panel build and fielding questions from the shop as well as directing the electricians during the assembly and debug of the equipment.

7.0 COMMENTS AND EXCEPTIONS

- 7.1 Alliance Automation will provide a machine that will be designed to run a machine cycle time as stated within this proposal. The stated cycle time does not include allowance for machine downtime, rejected parts, operator breaks, operator stoppages, operator load/unload time, scheduled machine maintenance and set-up time.
- 7.2 Any work or hardware requested by the customer that is not detailed, explained, or specified in this proposal will be quoted separately. A purchase order must be received for this additional work before Alliance Automation will implement the requested change.
- 7.3 Alliance Automation will quote additional time and material cost for any modifications required in the event that customer part designs change from the original part prints or production parts are different from what was provided at time of proposal.
- 7.4 This proposal represents Alliance Automation's best effort to address the specified requirements and is based on available information to date. Alliance Automation reserves the right to modify or substitute concepts, methods or components as appropriate based on discovery, new information, material availability or engineering principles. Any changes requiring cost adjustments will only be done on a mutually agreed upon basis.
- 7.5 Unless specified by the customer Alliance Automation reserves the right to specify component manufacturers.

8.0 CUSTOMER REQUIREMENTS

- 8.1 [REDACTED] is responsible for all printing media for bar code label printer.
- 8.2 [REDACTED] is responsible for providing operators able to feed/load the proposed system to allow the machine to run at the required cycle time.
- 8.3 [REDACTED] must supply 480 volts / 3 Ph / 60 Hz input power and clean dry air. Other voltages shall be obtained by transformers and power supplies within the control enclosure. The control voltage will be 24 VDC. The customer facility must be capable of supplying the necessary utilities to run the equipment.
- 8.4 [REDACTED] is encouraged to provide a VPN connection to the control panel for remote access to the system. The VPN connection can provide remote support efficiently and be more cost effective. The customer may incur additional cost for onsite service in the event that a VPN connection is not provided.
- 8.5 [REDACTED] is responsible for all floor preparations (concrete/building modifications where needed) and area preparations. Alliance Automation will provide all modification specifications and will add delivery of such specifications to the project timeline.
- 8.6 [REDACTED] will be responsible for all verification parts, plant layout and machine placement, operator instructions, and all part dunnage.
- 8.7 [REDACTED] is responsible for supplying all production parts needed to perform testing to prove process capability including but not limited to initial process testing, production run testing, equipment sizing & capability testing, and other ECAP requirements.
- 8.8 [REDACTED] is responsible for providing sample parts of each part number on or before the project kick off meeting with Alliance Automation. Project timing and cost could be affected if parts are not available at the kick off meeting.
- 8.9 Additional parts may be needed for feeding, vision, and special applications testing. The overall project timing and cost could be impacted if parts are not received per requested dates.
- 8.10 [REDACTED] is responsible for supplying all calibration or pass/fail type parts.
- 8.11 [REDACTED] is responsible for all parts required for testing and evaluation in the design phase of the equipment.
- 8.12 [REDACTED] will be responsible for the following:
 - 8.12.1 Mechanical Design Review Sign-off
 - 8.12.2 Electrical Design Review Sign-off
 - 8.12.3 Machine Run-off at Alliance Automation Sign-off
 - 8.12.4 Machine Installation, Start-up and Training, Final Machine Sign-off

9.0 SHIPPING, INSTALLATION & TRAINING

9.1 Shipping

- 9.1.1 Shipping will be F.O.B. Alliance Automation, Van Wert Ohio. Customer will be responsible shipping arrangements.
- 9.1.2 Alliance will be responsible for rigging equipment onto truck at Alliance Automation in Van Wert, Ohio.
- 9.1.3 [REDACTED] will be responsible for rigging equipment and placing the equipment on the floor where it is to be installed. Customer is responsible for providing all required rigging equipment needed during installation. In the event the customer cannot provide this equipment Alliance Automation will provide the equipment at an additional cost to the customer.

9.2 Installation

- 9.2.1 Installation and startup is included in the base price per assembly line. Installation and startup for the first assembly line will be 10 days. The second assembly line will be installed in 8 days.
- 9.2.2 Quoted as an option are 50 hours per line for start up support and 100 hours total for SOP support.
- 9.2.3 [REDACTED] is responsible for all electrical, communication, air and plumbing service drops required for the proposed assembly equipment.
- 9.2.4 [REDACTED] will be responsible for the electrical connection from the facility buss bar to the main panel disconnect lugs.
- 9.2.5 All other internal cell connections and termination will be made by Alliance during Alliance Set-up and Start-up.
- 9.2.6 [REDACTED] will be responsible for the pneumatic connection from the facility air supply (plant air) to the Alliance cell drip leg connection.
- 9.2.7 All other internal cell pneumatic connections are the responsibility of Alliance during Alliance Set-up and Start-up.
- 9.2.8 Installation will be performed during non-holiday 1st shift working hours, Monday - Friday. Installation hours requested outside of this time period will be quoted as an additional cost.

9.3 Training

- 9.3.1 Unless otherwise stated within this proposal Alliance Automation provides training as an option. The cost for this option can be found in the pricing section. All personnel being trained must understand English. Bilingual training is not available.
- 9.3.2 Training will be performed during 1st shift working hours, Monday - Friday. Training hours requested outside of this time period will be quoted as an additional cost.
- 9.3.3 Additional training for new operators and maintenance personnel can be scheduled and performed by our technicians, if needed. Additional training will be billed at our normal rates and can be quoted upon request.

10.0 RUN OFF REQUIREMENTS

10.1 Run-Off at Alliance Automation

- 10.1.1 The customer and Alliance to agree upon requirements during kick off phase of project. At a minimum the equipment must meet cycle time, safety and functional requirements.

10.2 Run-Off at Customer Facility

- 10.2.1 The customer and Alliance to agree upon requirements during kick off phase of project. At a minimum the equipment must meet cycle time, safety and functional requirements.

10.3 Run-Off Notes

- 10.3.1 [REDACTED] is responsible for supplying all necessary parts and labor for all runoffs.
- 10.3.2 The system acceptance shall apply only to work provided under this quotation. In the system acceptance testing phase of this project, any downtime due to breakdowns of ancillary equipment, interfacing equipment, or, in general, any equipment not provided by Alliance Automation, and/or by damaged/defective product shall not be included in determination of acceptance testing.
- 10.3.3 The customer is responsible for reimbursing Alliance for any additional labor and or travel expenses incurred in the event the customer does not supply the pre-determined amount of parts necessary to perform any run-off requirements. This includes run-offs performed at Alliance Automation and at customer facility.

11.0 DELIVERY

Delivery is based upon current workload and machine purchase component availability at the time of order; however normal delivery will be approximately **26 – 28 weeks** from project kick off meeting.

Project timeline will be developed with the receipt of purchase order and down payment. The project timeline will not start until part prints, part models, and part samples have been received.

12.0 PRICING

ITEM #	DESCRIPTION	QTY	UNIT PRICE	TOTAL
1	T1XX Assembly Line #1 Price includes separate installation and startup.	1		
2	T1XX Assembly Line #2 Price includes separate installation and startup.	1		
3				
TOTAL SYSTEM PRICE				
PURCHASING OPTIONS				
4	Add 1 Station and 1 Pallet Per Line	1		
5	Add 2 Stations and 2 Pallets Per Line	1		
6	Spare Parts - (10) Drive Bits, (1) Torque Controller, (2) Controller Cables, (2) Torque Guns, (2) CHMSL Test Connectors	1		
7	Additional 50 Hours On-Site Start Up Support	1		
8	Additional 100 Hours On-Site SOP Support	1		

13.0 PAYMENT TERMS

- 30% Invoiced upon Receipt of Purchase Order, Due Net 0 Days
- 30% Invoiced upon design approval, Due Net 30 Days
- 30% Invoiced after run-off (at Alliance) or shipment of equipment, whichever occurs first. In the event that multiple shipments are required invoice will be sent upon first shipment. Due Net 30 Days
- 10% Invoiced upon completion of installation & final run-off, not longer than 30 days after delivery, Due Net 30 Days

14.0 WARRANTY, TERMS, and CONDITIONS

WARRANTY: Alliance Automation, LLC (hereafter Seller) warrants for **two years** from date of shipment, the mechanical and electrical equipment of its own manufacture against defects in workmanship or material, its obligation being limited solely to repair or replacement of defective parts. The seller warrants for **two years** from date of shipment the engineering design of the equipment and will replace or repair any component not properly designed or applied in the intended process. The seller shall not be liable for any other damages, direct, indirect or consequential. Equipment not manufactured by the Seller shall carry the warranty of the manufacturer thereof. Deterioration caused by misuse, abuse or improper operating procedures does not constitute a defect. This warranty, which is given expressly and in lieu of all other warranties, expressed or implied, of merchantability and fitness for particular purpose, constitutes the only warranty made by the Seller. It is further agreed that there are no understandings, agreements or representations, express or implied, not specified herein respecting this order and this instrument contains the entire agreement between the parties

DELIVERY: Except as otherwise specified in this quotation, delivery will be FOB, Alliance Automation, Van Wert, OH. Shipping dates are approximate and are based upon receipt of all information and necessary approvals.

TERMS: Except as otherwise specified in this quotation, The terms of payment shall be balance net within 60 days from date of invoice, depending upon standard terms or progressive terms. Amounts past due and older will be charged a finance charge of 1.5% of the outstanding balance per month.

FORCE MAJEURE: Seller will not be responsible or liable for any delays in delivery or manufacture due to any cause or condition beyond its control, including, without limitation, strikes or other labor difficulties, or unavailability, flood, earthquake, inability to secure transportation facilities, shortage of materials or supplies, riot or other civil disturbance, war, acts of God or nature, accident, or any acts of any government. Seller will also not be held responsible or liable for scheduled installation completion dates if at any time during the project process the seller's timeline is put on hold by the seller due to lack of information, sample run-off material delays, machine downtime, untimely review process, change in scope and/or customer support. (Installation completion dates will move the same amount of days as project is on hold or adjusted for scope change.)

ACCEPTANCE: This quotation shall expire 30 days after its date, unless otherwise stated herein.

PRICES: The prices specified herein do not include sales, use, occupation, license, excise or other taxes in respect to manufacture, sale or delivery, all of which shall be paid by the Purchaser, unless a proper exemption certificate is furnished.

TITLE: The equipment shall remain personal property, regardless of how affixed to any realty or structure. Title thereto shall remain with the Seller until the purchase price has been fully paid.

RIGHT TO RESTRICT USE: In order to provide additional security for both Interim and Final Payments, Alliance may install a software registration key in the equipment furnished under this proposal. In the event of payment default by the customer Alliance may, at its discretion, limit use of the equipment using programmatic methods incorporated in such software. These methods include, without limitation, the restriction of the use of controller software contained in the equipment by the withholding of additional software registration keys necessary to continue to operate the equipment. This restriction may make the equipment incapable of operating for its intended purpose. In the event that Alliance exercises the right to restrict use, and upon satisfaction of all customer payment and nonpayment obligations under this proposal, Alliance will at its sole expense provide customer with a software registration key having no expiration date.

CANCELLATION AND TERMINATION: Upon cancellation of all or a portion of an order placed with Alliance Automation, LLC the customer becomes liable for payment of reasonable cancellation charges, which shall take into account, expenses already incurred and commitments made by Alliance Automation, LLC relating to the subject order. In the event that Alliance Automation, LLC experiences any restocking, cancellation, or associated charges from a related vendor contracted to supply material or labor for a specific customer's order, these charges shall become the full responsibility of the customer. No termination by the customer for default shall be effective unless and until Alliance Automation, LLC shall have failed to correct such alleged default within 30 days after receipt of a written notice specifying the default and required corrective measure.