



Automated Floor Truss System

SPECIFICATION SHEET

COLLABORATIVE FLOOR TRUSS ASSEMBLY ~ 800+ Cp/Hr with 3 operators*

Two trusses ejected every time the gantry press is operated. Provides greater flexibility on production scheduling & optimization.

Two lines feeding one assembly table.

Two trusses ejected for up to 800+ connector plates per hour.

Splicing
Stations

Manual
Infeeds

Assembly Station

Preplate Stations

- CUT LABOR NEEDS & COSTS
- LESSEN REQUIRED PHYSICAL DEMAND
- ATTRACT NEW WORKER DEMOGRAPHIC
- REDUCE ERRORS & WASTE

- RAISE PROFITS & BOOST PRODUCTION
- ENHANCE PLANT EFFICIENCY & FLEXIBILITY
- REDUCE RISK OF DOWNTIME LOSSES

^{*}Many different factors can affect rate including but not limited to operator experience, lumber type and quality, proper system maintenance, complexity of truss design, number of connector plates used, etc.



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PRODUCT OVERVIEW

An operator manually loads truss members in sequenced order on the manual infeed station. The members are either spliced (if a top or bottom chord) or go directly to the preplate station (if it is a web). When the member reaches the preplate station it is automatically preplated with the appropriate connector plate. The member then travels to the table for automatic layout and assembly.

KEY FEATURES

Designed to pick connector plates from most manufacturers. The system builds trusses using standard construction practices and material. System accepts only 2x4 material, members up to 20' long. Other dimensional pieces can be manually placed before the truss is pressed. SYSTEM COMPONENTS: Manual Infeeds, Splicing Stations, Preplate Stations, Assembly Stations.

THE SYSTEM DOES NOT INCLUDE: tables, exit roller(s), finish press.

LIMITS

Minimum length of a floor truss is 2', up to a maximum of 40'
Minimum height of a floor truss is 11", up to a maximum of 26"

RATE

The truss system runs at a rate of 800+ connector plates per hour.

Cp/Mem	Cp/Hr (avg)	Cp/Hr (max)
1	204	212
1.5	366	377
2	480	494
2.5	569	586
3	642	660
3.5	704	723
4	757	777
4.5	804	825

SPLICING

Splices boards with a minimum length of 45".

Splices 2 or more chord members end-to-end with a 1/16" or less gap.

Twelve connector plate magazines available, sizes are configurable.

PREPLATE

Places bottom connector plates on chords.

Places top connector plates on webs.

Uses all common connector plates from most manufacturers. Station allows for connector plates to be manually placed before the truss is pressed.

Connector plate magazines - sizes configured per customer's requirements.

Maximum number of connector plate magazines per station is 65. Non-typical plate shapes (non-rectangular) require manual placement.

ASSEMBLY

Accommodates spliced chords up to 40' long.

Shortest member to automatically assemble is 6".

Handles connector plates up to 10.5" extending off the edge of a member. Any overhang greater will require manual placement.

The assembly station end-of-arm tool will only pick 2x4 material.

Presses the truss together along its length. Web and stud members have a maximum of 1/8" gap between components.



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SAFETY

The system meets all applicable safety requirements. For robotics, meets ANSI Robot Safety Standard, ANSI/RIA R15.06 – 2012.

System allows for lock-out/tag-out maintenance access.

DIMENSIONS

System footprint: 145' X 45'

Based on a 40' table, footprint may expand depending on chosen table length.

Maximum truss size is determined by table selection.

ELECTRICAL REQUIREMENTS

220A @ 480V 3-phase

UL listed electrical cabinets

AIR REQUIREMENTS

110 PSI - clean and dry air

ENVIRONMENT

Indoor operation, ceiling height equal or greater than 14'.

Slab thickness: equal or greater than 6" thick.

Relative humidity - at or below 95%.

Ambient temperature $41^{\circ} - 104^{\circ}F$ ($5^{\circ} - 40^{\circ}C$).

NOTE: This is a collaborative system - an operator will need to ensure the completed truss meets internal specifications.

SOFTWARE & PROGRAMMING

Includes software to aid in the sequencing and grouping (batching) of trusses for optimum performance - HoD's TEd Software.

Processes customer truss files from a standard ASD or TRE file. TEd integrates with most design suite file types.

Includes a Human Machine Interface (HMI) for entry of part numbers, display of rate, display of system state (errors, alerts, alarms), operation in manual or automatic mode, starting/stopping the system, etc.

Includes programming for automatic operation, producing the components listed in this document.

Detects errors and signals personnel.



800.521.9790 info@alpineITW.com ALPINE, an ITW Company, the exclusive representative for House of Design's Automated Roof & Floor Truss Systems

