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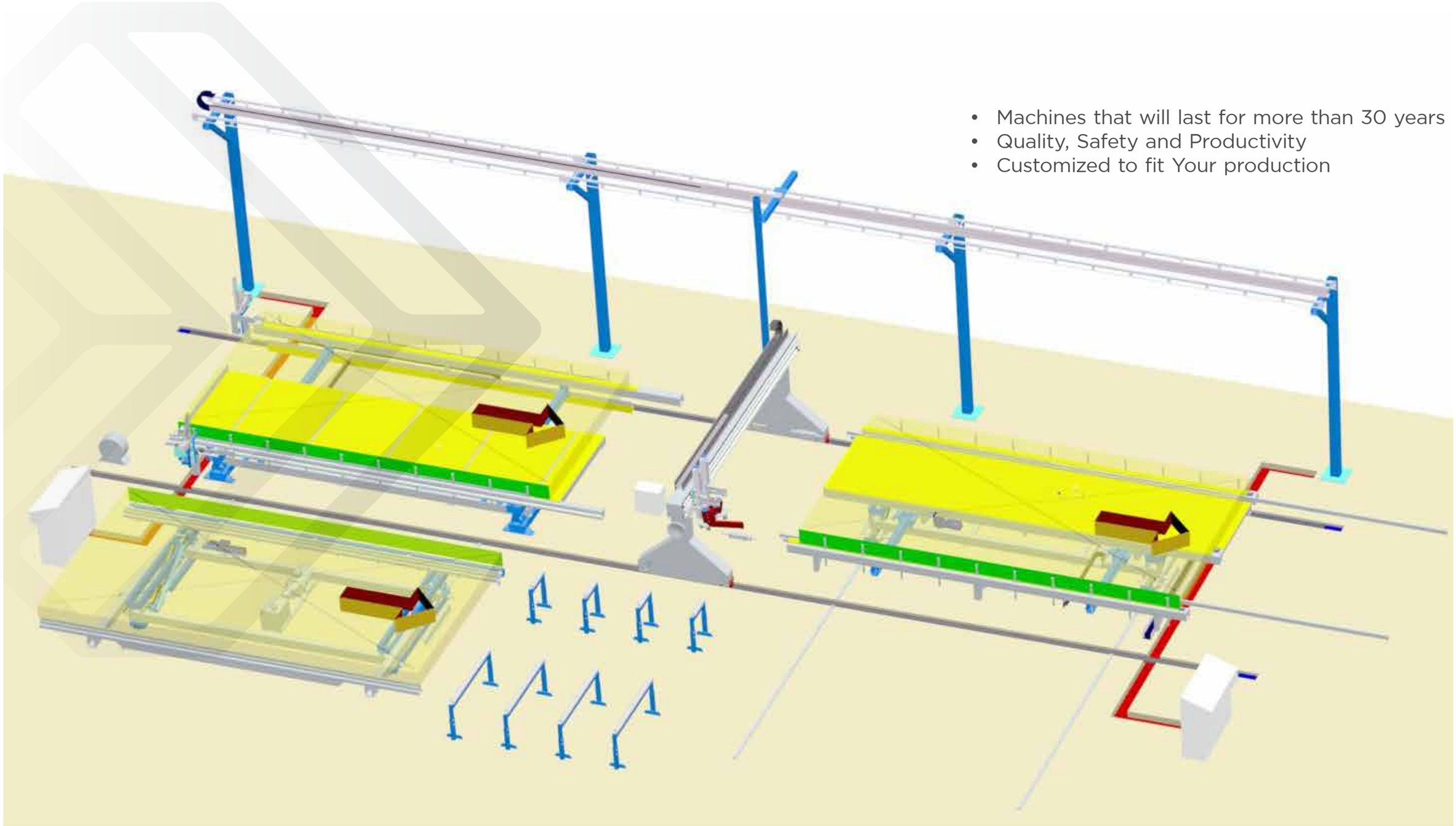
FLEXI
RANGE
RANDEK™
BUILDING THE FUTURE

INTRODUCTION FLEXI RANGE

Flexi Range is a collection of flexible and professional system where some the most proven and well-tested machines from the Randek range are combined to fit Your production. Quality, Safety and Productivity are keywords that are associated with this product range.

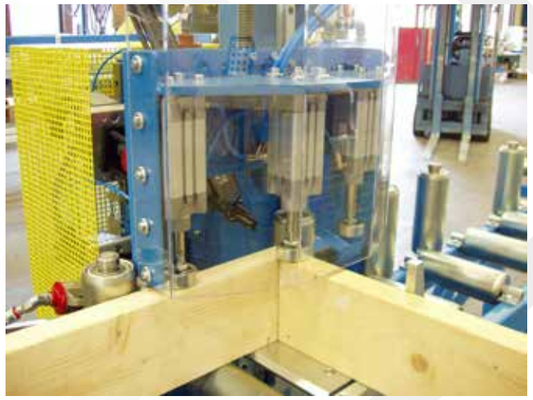
- Machines that will last for more than 30 years
- Quality, Safety and Productivity
- Customized to fit Your production



FRAMING STATION
FM1000 / FM1000TS

Framing station FM1000/TS is a machine developed for effective and precise production of prefabricated timber frameworks.

- Effective and quality controlled production of timber frameworks
- Produces squared timber frame works
- High capacity

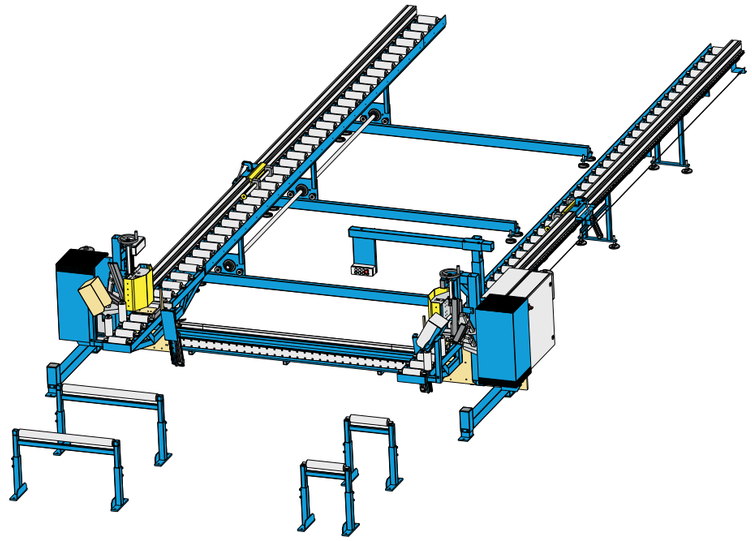


Automatic stud nailing on Framing Station FM1000

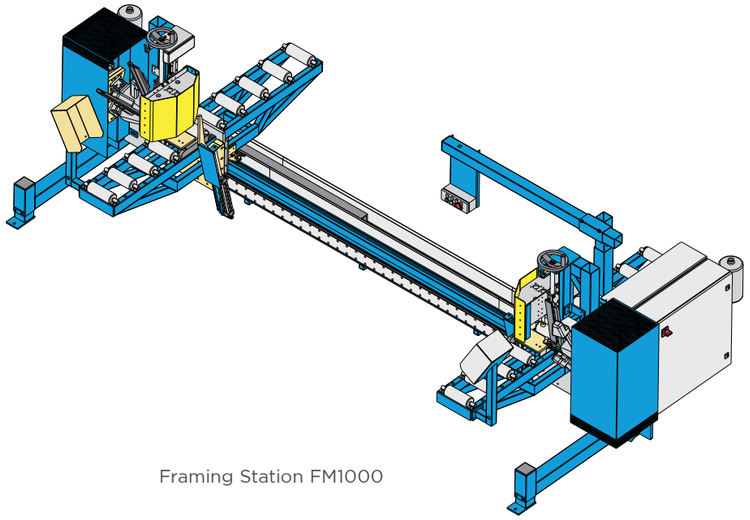
Overview of Framing Station FM1000TS

FUNCTIONAL DESCRIPTION

- Place the top and bottom plate and clamp them
- Place stud against positioning unit for exact position (FM1000TS or FM1-PS), or where the top and bottom plate are premarked (FM1000)
- Start the nailing sequence
- Push the timber frame work forward to next nailing position on the rollers
- Place the next beam and repeat the above



Framing Station FM1000TS



Framing Station FM1000

Technical Description	Min	Max
Framework - Length	0 mm	No limit*
Framework - Height	1500 mm	3300 mm
Framework - Thickness	63 mm**	250 mm
4 tool wagons for nailing guns (nailing guns not included) Nailing guns are adjustable in height; every nailing sequence can be performed with up to 4 nails Rollers for in feed of top and bottom plate The machine has one fixed side and one movable for adjustment for manufacture of different heights of frame work The machine is equipped with safety stop According to regulation 98/37/EC CE-marked		
* Depends on the length of the next machine in the production line. ** Depending on nail gun brand.		

FRAMING TABLE
FT1000/2000

Randek Framing Table FT1000/2000 is an efficient machine when producing prefabricated building elements. High quality is achieved due to the lead screw clamping function that guarantees the squaring of the building element. Fast width adjustment with the motorized clamping system. Wheel conveyors or chain conveyors for effective transport of the building element. Possibility to run nailing wagons along the table for effective nailing, drilling and marking.

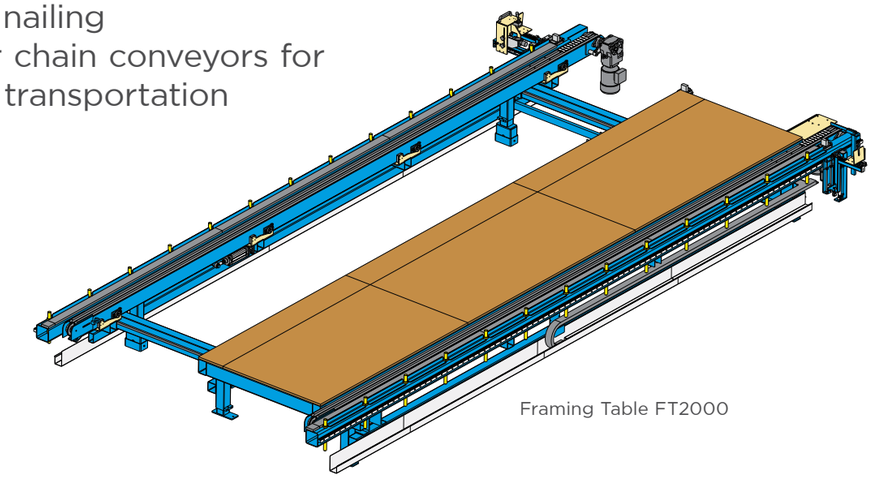
Framing Table FT1000 equipped with wheel conveyors

Weight balanced nailing wagon on a Framing Table FT2000

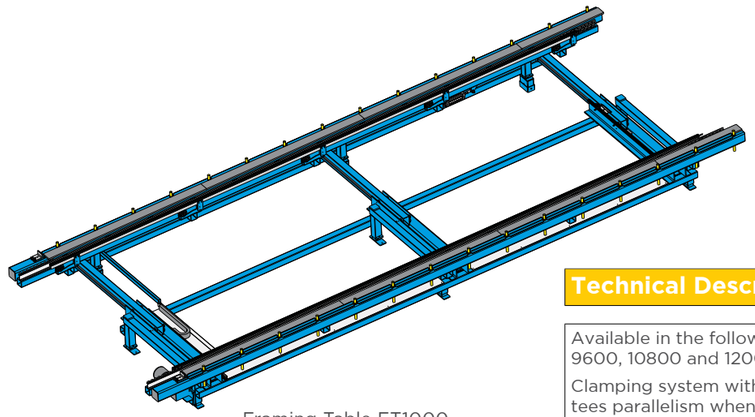
FUNCTIONAL DESCRIPTION

- Easily set up the width of the framing table using the motorized clamping system.
- Place top and bottom plate.
- Mark positions where studs should be placed, can be done manually or with marking device (option).
- Place the studs.
- Clamp the frame work.
- Nail together the frame work with the nailing wagons (option) equipped with nailing guns effectively and ergonomically correct or do it manually.
- Drill holes in top- and bottom plate using the drilling unit (option).
- Boards can be placed and nailed in this machine or later in the production line, when nailing boards the machine can also be equipped with a nailing bridge for automatic nailing.
- Raise the wheel conveyors. (if applicable)
- Transport the frame work on the wheel/chain conveyors to the next station in the production line.

- Squaring function guarantees 100% parallelism
- Fast and efficient width adjustment
- Nailing wagons for effective and safe nailing
- Wheel or chain conveyors for effective transportation



Framing Table FT2000



Framing Table FT1000

OPTIONS

- Transport system wheel or chain conveyors
- Nailing wagons
- Upraise function
- Hole beams for extra flexibility
- Foldable pins for outfeed of wall in vertical position

Technical Description

Available in the following lengths: 6000, 7200, 8400, 9600, 10800 and 12000 mm

Clamping system with motorized lead screws guarantees parallelism when clamping/squaring of the building element.

Fast motorized width adjustment up to 3300 mm.

Rails along the long sides of the table where the nailing wagons can run.

2 wheel conveyors for transport of building element that can be lowered into the working table.

The working tables are covered with plywood as far as technically possible, the Boards enables building of framework and placement of beams directly on the working table.

The table is built in strong steel profiles.

The working height of the table is optimal 700 mm.

Fixed flat bar on one short side.

Removable stoppers on both long sides.

Fixed flat bars on both long sides.

The table is designed to make it possible to add a multi function working bridge.

Equipped with safety stop

CE-marked

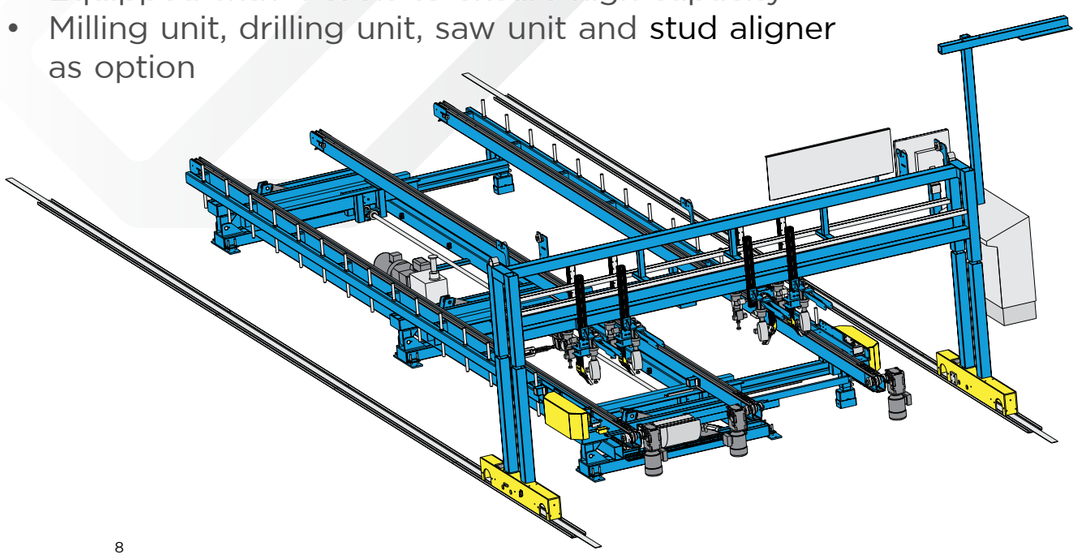
NAILING BRIDGE
NB3000

Nailing Bridge NB3000 is a fully automatic nailing bridge that can be equipped with: nailing gun, nailing pusher, screwing tool etc. The nailing bridge can also perform the following processes: milling, sawing and drilling. The nailing bridge is equipped with 4 tools in order to have a very high capacity

PRODUCTION PROCESS

The wall is transported into the station and is squared automatically. The nailing bridge nails the Boards to the frame work. Depending on type of Board the nailing bridge is equipped with different tools i.e when nailing plaster boards we recommend using nail pushers. The nailing bridge works according to the CAD-file and runs on rails lowered into the floor in order not to disturb the operator. The tool wagons are positioned sideways with servo motors and in height with actuators.

- Nailing of Boards automatically
- Equipped with 4 tools to ensure high capacity
- Milling unit, drilling unit, saw unit and stud aligner as option



DRILLING UNIT

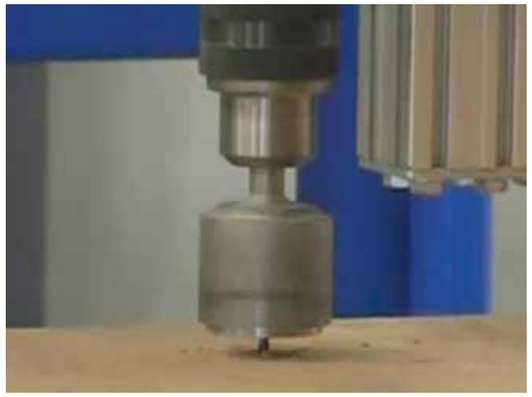
Drilling unit for making holes for electricity or for marking the position of radiators etc.

MILLING UNIT

Milling unit with or without interpolation, the interpolation is used when milling of holes or angled shape cuts. The unit can also be equipped with edge-touch function. The mill is controlled with x- and y-coordinates from the CAD file and an edge-touch function controls that the mill does not run into a stud or misses parts of a Board. This increases the quality of the process and enables placing of the joint at any position i.e. above windows which decreases risk of cracks in Board.

SAW UNIT

The saw unit can be equipped with interpolation in case of need for making angled cuts. The saw is used for sawing doors and window openings.



STUD ALIGNER

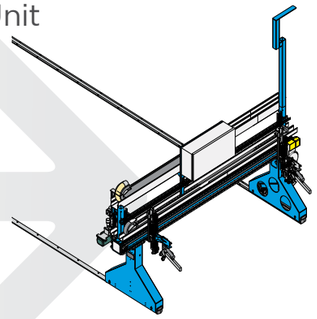
The Stud aligner runs synchronized with the nailing bridge and works from below of the frame work; stud by stud is clamped and straightened. The function guarantees that the nails are nailed at the centre of each stud.

NAILING BRIDGE
NB1000F

Nailing bridge NB1000F is a nailing bridge developed for effective nailing of Boards. The nailing bridge can be equipped with staplers or nailing guns, the nailing is done vertically and horizontally two different nailing patterns can be applied.

OPTIONS

- Air motor for automatic vertical nailing, NB1-AM
- Laser function for horizontal positioning (when nailing below and above openings, one for each tool is needed), NB1-LF
- Milling unit
- Sawing Unit



- Fast, efficient and precise nailing.
- Easy to position using laser function.
- 2 different nailing patterns can be applied.

FUNCTIONAL DESCRIPTION

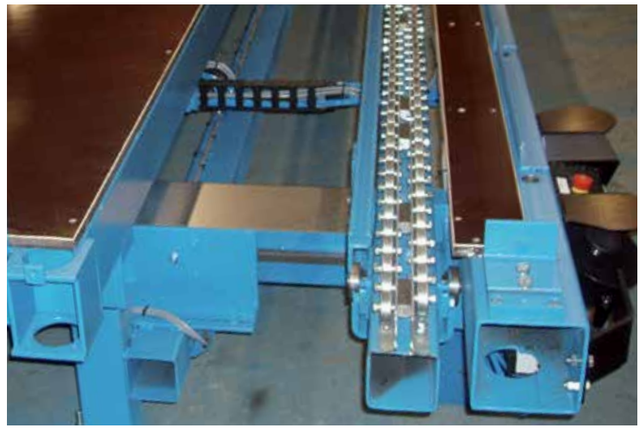
- The building element is fixated to the underlying working table.
- Place Boards on the building element.
- Set up the machine for measure for top plate (height of wall).
- Move nailing bridge using hand crank and position it using the laser function.
- Activate both or one nailing gun/ stapler and initiate the nailing process, the vertical nailing is done using hand crank or air motor (option). Two nailing guns/staplers, nails the Board.
- Nail top and bottom plate, a different nail pattern is easily activated on the control interface.
- Position and activate one nailing gun/ stapler above openings using laser function (option) and initiate the nailing.

Technical Description	Min	Max
Framework - Length	Depending on work table	
Framework - Height	-	3300 mm
Framework - Thickness	63 mm	300 mm

- Available in the following lengths: 6000, 7200, 8400, 9600, 10800 and 12000 mm
- Hand crank for vertical nailing and movement of both nailing guns/staplers.
- Hand crank for horizontal movement of nailing bridge and nailing.
- Possibility to choose 2 different nailing patterns, are activated on control interface.
- Equipped with 2 holder for nailing tools, running crosswise over the building element.
- Nailing guns or staplers can be used.
- Tools are not included. Choices of tools need to be approved by Randek.
- Laser function to guide vertically nailing.
- Mounted on rail on the floor.
- Equipped with safety stop
- CE-marked

TRANSPORT
SYSTEM

Randek Flexi Range has two transport systems that can be applied to the machines. Wheel conveyors and plate top chain conveyors.

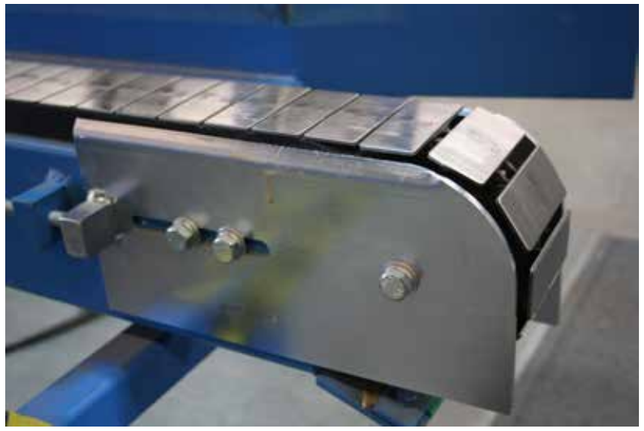


WHEEL CONVEYOR

The wheel conveyor system is built up adding wheel conveyors to the stations normally along the stations, 2 or in some cases 3 wheel conveyors on each machine. The wheel conveyors are fixed or upraisable depending on what kind of working operations will be performed in the station. Each wheel conveyor has 2 sets of wheel rows laying parallel with a displacement of the radius of the wheels this makes it possible to efficiently transport also elements that have holes or openings such as timber frame works etc.

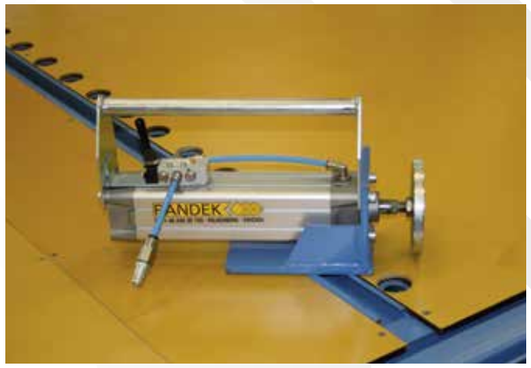
PLATE TOP CHAIN CONVEYORS

The most advanced and professional transport system is the plate top chain conveyor system. In this system 2 or in some cases 3 chain conveyors are installed on each machine. The chain plate top system makes it possible to transport very heavy elements without damaging fragile items, such as gypsum boards, on the element. It is also possible to reverse the elements.



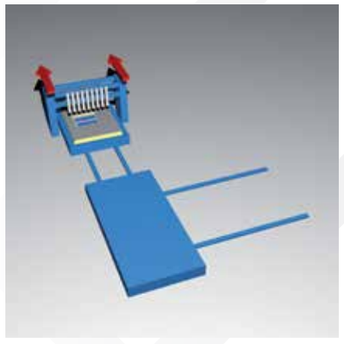
SIMPLE SYSTEM
SF016

Simple System is developed to be an efficient, flexible and space saving system for production of insulated wall elements. In principal this system is a butterfly system where the stations are movable sideways and along the tables in order to be able to nail and operate with a nailing bridge on both sides of the wall element. Both tables are equipped with lead screw clamping unit for exact parallelism when clamping and hole beams for possibility to produce also angled shape wall elements.

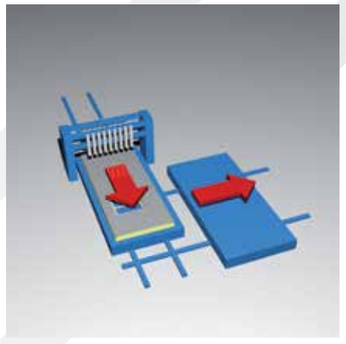


Hole beams for flexible clamping from all angles

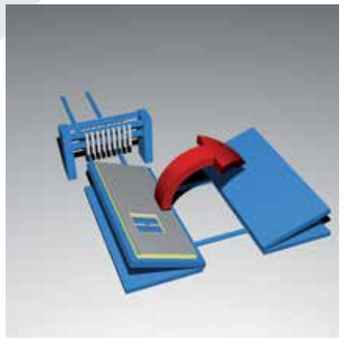
The foldable pins enables outfeed of wall in vertical position directly from station to a stock system.



The timber frame work is build and squared using clamping function. Boards are applied and the nailing is done with Nailing bridge NB1000/3000.



Station 1 is transported lengthwise and station 2 is transported sideways.

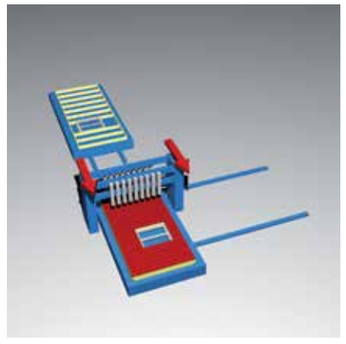


The building element is safely and effectively turned using the hydraulic turning function.

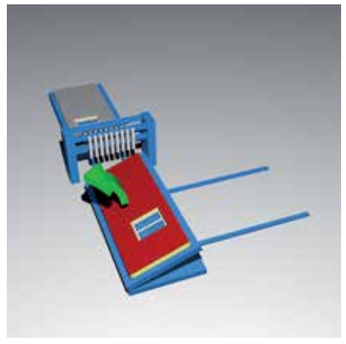
A CAD/CAM-controlled nailing bridge can be used or a manual NB1000F

- Flexible and space saving system
- Nail boards/cladding on both sides of the element with one nailing bridge

Station 1 is transported lengthwise and station 2 is transported sideways back to original position.



Nailing bridge NB1000/3000 nails the boards/cladding in station 2, optionally other processes such as sawing and milling can also be performed by Nailing bridge NB1000/3000. The next building element is initiated in station 1...



The building element is finalized in station 2 and is erected and feed out in vertical position or to a traditional conveyor system.

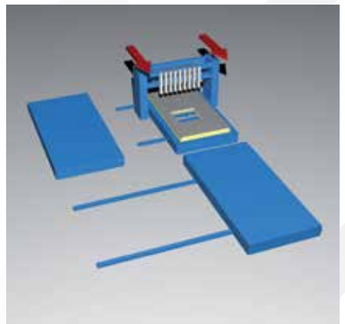
DOUBLE SYSTEM

SF021

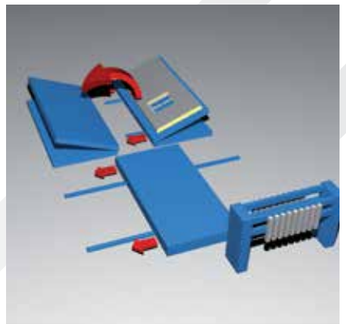
SF021 Double System is developed to be a flexible system for effective production of insulated wall elements where the utilization of the nailing bridge is high. Boards covering both sides of the wall element is nailed using the same nailing bridge. The framework is nailed together using weight balanced nailing tools running on a rail for effective and economically nailing. The system has working tables that can move sideways in order to achieve good working space. The framing table is equipped with hole beams for flexible production.

The framing table is equipped with weight balanced nailing wagons running along the station for safe and exact nailing of the timber frame work.

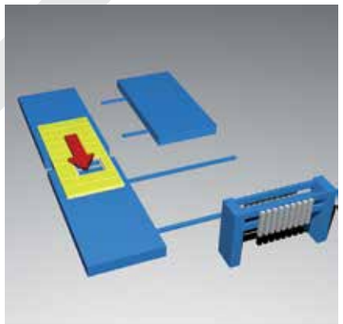
It is possible to install a manual Nailing bridge NB1000, seen above, or a CAD/CAM-controlled Nailing bridge NB3000.



Build timber frame work in station 1, mark top and bottom plate using marking device and clamp the frame work with squaring function. Nail the frame work easily together with weight balanced nailing wagons running along the station. Add the boards and nail them to the frame work using NB1000/3000.



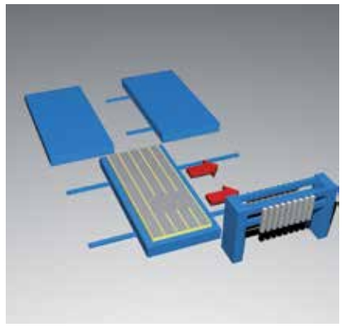
The building element is safely and effectively turned over.



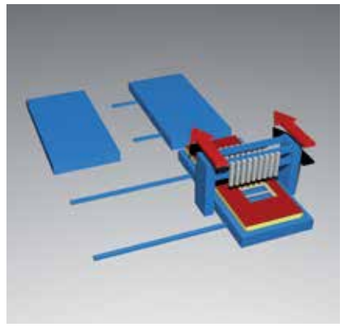
Insulate building element and perform other manual processes. Transport the element to the next station.

Overview of Double System – SF021.

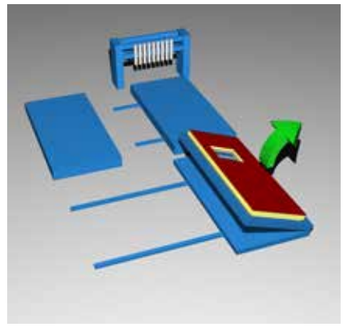
- Effective and professional system
- Nailing wagons and Nailing bridge for high quality result



Perform manual processes. The station is transported sideways back to original position.



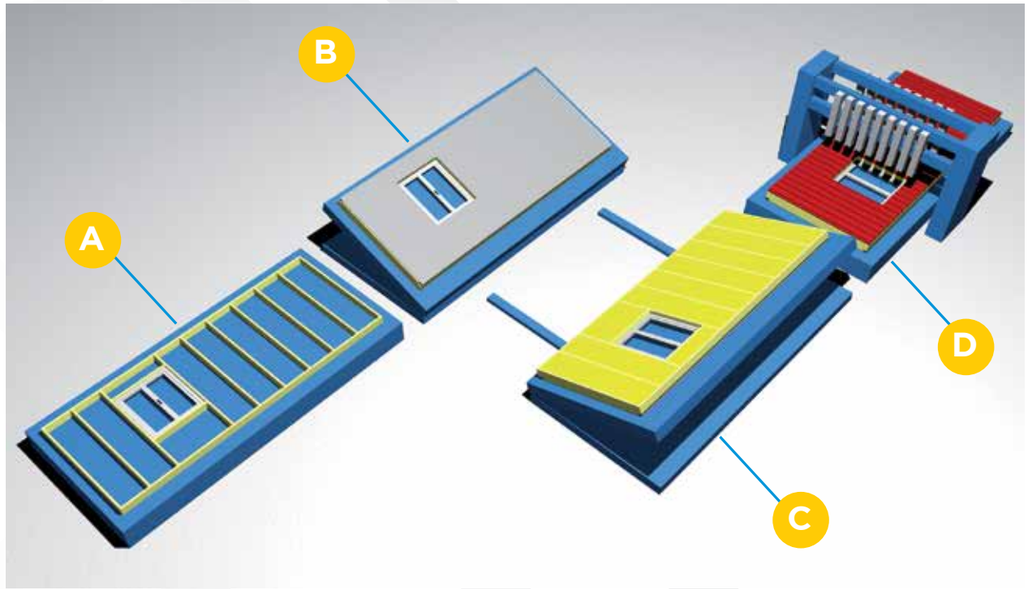
Add boards or cladding and nail them to the building element using NB1000/3000 and perform other processes performed by NB1000/3000 such as milling sawing etc.



The building element is erected and fed out in a vertical position or to a traditional conveyor system.

COMBI SYSTEM
SF004

Combi System consists of a 4-table solution to fully get the effectiveness benefits that you gain when producing in a production line. The production flow goes in one direction and right material for each standardized process is stored at each station, making the production effective. The production line is optimized for wall production but can be adapted for floor and roof production as well.



POSITION A
The framework is built and squared on the Framing Table weight balanced nailing guns running along the table enables efficient and safe nailing of the studs

POSITION B
Boards are applied to the timber frame work.. The boards are nailed using a Nailing bridge NB1000/3000 or manually. The turning process is initiated the Upraise and Receiver Table is erected.

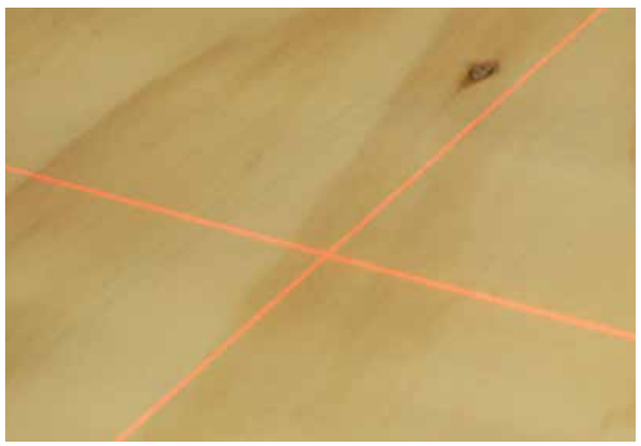
POSITION C
The building element is turned over to the Receiver Table with a controlled and safe turning process. Manual processes are performed on the building element such as insulation etc.

POSITION D
Boards/Cladding are applied and nailed with a Nailing Bridge NB1000/3000 or manually. Finally the building element is raised for vertical outfeed from station or to attach to a traditional conveyor system.

The wall element is erected and fed to Vertical Outfeed System directly from Combi System for effective mounting of windows etc.

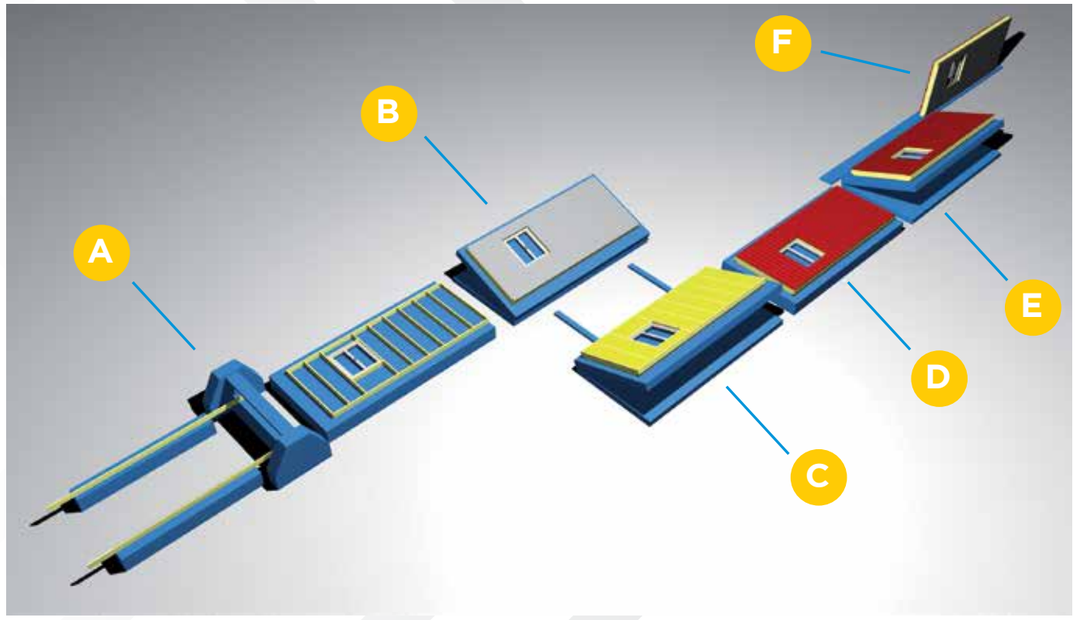
View of Receiver Table

View showing Laser Function NB1-LF equipped on the Nailing Bridge NB1000 easy and effective positioning when nailing, sawing or milling.



LINE SYSTEM SF020

In this system even one more station is added and the framing station is replaced by station that is optimized only to build frame work efficiently. The process of building a wall element is divided into 6 stations making the capacity high. Depending on the wall element extra stations can be added to the line before or after turning on order to achieve a balanced production. To the line it is possible to add stations to be able to perform operations when the wall is in vertical position such as window mounting etc.



POSITION A

The timber frame work is built with high capacity and precision using a Framing Station FM1000 or FM1000TS.

POSITION B

Folie / boards are applied and nailed using a Nailing Bridge NB1000/3000 or done manually. In case of a wall element that has 2 insulation layers an extra station is added where the second timber frame work is built. The turning process is initiated and the Upraise and Receiver Table are erected.

POSITION C

The wall element is insulated and folie is applied.

POSITION D

Manual processes are performed such as nailing of battens etc.

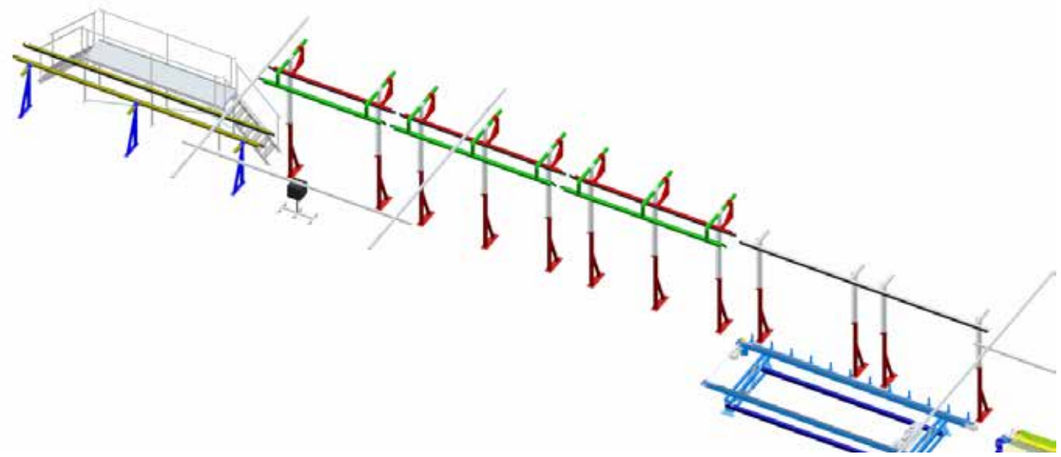
POSITION E

Boards/Cladding are nailed using a Nailing Bridge NB1000/3000 or done manually.

The wall element is erected to vertical position and is fed out to a vertical finishing system or further to stock system. Alternatively the wall element is picked up using a traditional conveyor system.

POSITION F

The wall element is in vertical position and processes are performed such as window installation etc, thus processes optimized to be done when the wall is in vertical position.



Overview of a complete Vertical Outfeed System possible to connect to any of the systems within Flexi Range.

Effective window mounting in a Vertical Outfeed System.

Close view of the clamping system on FM1000TS the system enables timber frame production with high quality and capacity.

RANDEK IN BRIEF

Randek develops, manufactures and markets high-performance machines and systems for prefabricated house manufacturing. The product range consist of: cut saws, wall-, floor- and roof lines, roof truss system, butterfly tables and special machines. The automation level stretches from fully automated to manual.

The company history goes back to the 1940s and began working in close cooperation with the first prefabricating house producers. Today leading house producers in 38 countries are using Randek machines and system.

CUT SAWS

High quality and well tested saws with different automation levels. Also specialized saws for custom applications.

WALL-, ROOF- AND FLOOR LINES

Complete product program for manufacturing of walls, floors and roofs. From manual to fully automatic systems.

ROOF TRUSS SYSTEMS

Adapted equipment for rational manufacturing of roof trusses. From traditional systems to fully automatic.

BUTTERFLY TABLES

Flexible and well tested butterfly tables. Simple or advanced with a wide range of options.

SPECIALIZED MACHINERY

Customized machinery developed for specific applications, Automatic stucco machine, Beam insulating machine, Roof board machine and Window frame machine.

SERVICES

A wide range of services such as Factory Layout designs, Machine maintenance, House building systems and Financing.

RANDEK
BUILDING THE FUTURE

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