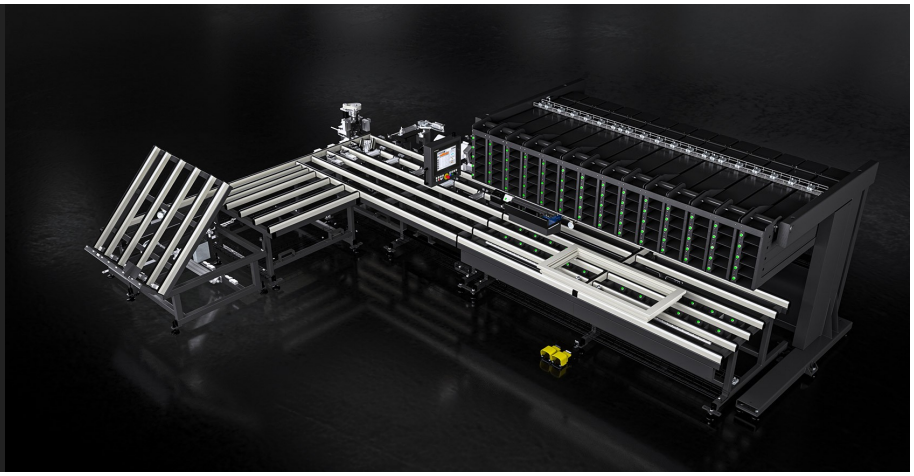
Insermatic

Benches for CNC machining



Automatic workbench for the automated screwing of hardware with constant or variable step on door and window sashes, with large worktable that allows large sashes to be handled and rotated. It is fully programmable from a console, or more commonly receives data from a hardware management system which automatically programs machining. Two screwdrivers with automatic screw feed work two sides of the sash simultaneously. The H2B version is equipped with a pre-assembly workbench with 8 boxes for small hardware and a 42-place hardware storage for long hardware components; the position of the components is indicated by labels placed on the compartments. The H2 version has a greater hardware storage capacity with 24 places for short and a 70-place for long hardware, with a LED identification system to guide the assembly, informing the operator of the components to be taken in the correct sequence. The workbench is completed with a CN shear for custom cutting both constant- and variable-pitch hardware, and a scrap collection drawer. A transport system allows the automatic movement of the sash from the assembly bench to the hardware screwing bench.

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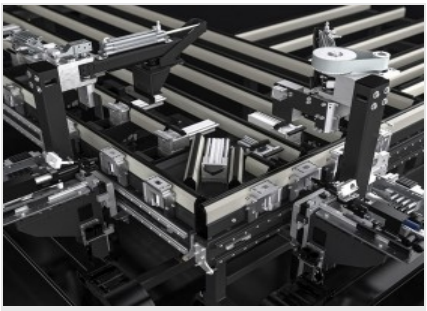
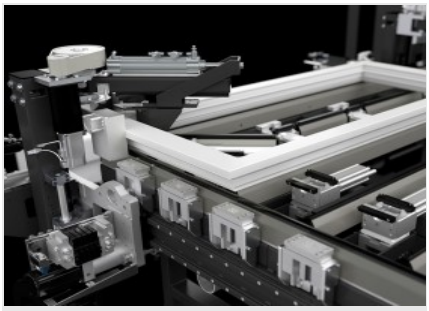


Double automatic screwing carriage

Hardware assembly bench equipped with two independent screwing stations to simultaneously work on two sides of the frame, with the possibility of inserting a third loader for special screws.

Frame transfer

This system allows transferring large frames and repositioning them without any operator intervention, up to the point in which hardware screwing takes place automatically.



Frame rotation

Frame rotation for sequential machining of the 4 sides is ensured by an automatic CN system. The device allows rotating large frames and repositioning them without any operator intervention, until hardware fixing on the board is complete.

Control

The ergonomic state-of-the-art control panel features a touchscreen display and fully customised software and is packed with functions developed in the Microsoft Windows® environment specifically for this machine.

Hardware magazine system (H2 version)

The hardware magazine on board the line consists of two parts, the first with 24 compartments for small hardware located under the worktop; the second with 70 compartments for long hardware, located under the upper magazine, in front of the operator. The magazine is equipped with a LED system to facilitate component selection by the operator. The hardware assembly sequence is defined by the management program.

Hardware magazine system (H2B version)

The hardware magazine on board the line consists of two parts, the first with 8 compartments for small hardware located under the worktop; the second with 42 compartments for long hardware, located under the upper magazine, in front of the operator. The magazine is provided with labels indicating the position of the components to facilitate their selection by the operator. The hardware assembly sequence is defined by the management program.

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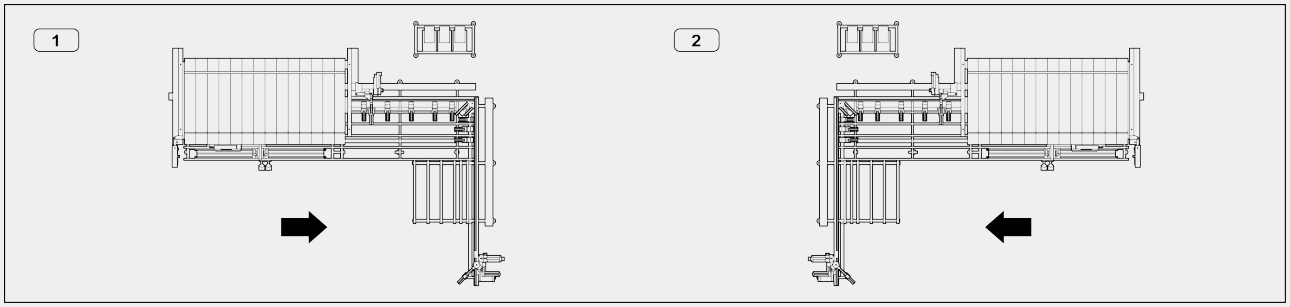
LAYOUT



1 - Left version (left to right) 2 - Right version (right to left)

CHARACTERISTICS

Number of controlled axes	6
X axis stroke – main screwing unit (mm)	3.860
R axis stroke - sash rotation	-5° ÷ 185°
X axis speed – screwing positioning (m/min)	45
Y axis speed – sash translation from assembly area (m/min)	45
Y axis speed – screwing positioning (m/min)	45
R axis speed – sash rotation (°/min)	2.500
Air consumption (Nl/min)	1.400
Installed power (kW)	8
Load capacity (kg)	240

WORKPIECE LOCKING

Pneumatic sash gripping system	●
Minimum profile height (mm)	34
Maximum profile height (mm)	120
Maximum profile locking dimension (mm)	170
Minimum machinable sash dimension - outer measurement (mm)	400 x 400
Maximum machinable sash dimension - outer measurement (mm)	1.250 x 2.700

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PRE-ASSEMBLY WORKBENCH

Hardware pre-assembly workbench	●
CN shear for hardware with variable step	●
Glass holder measurement system (H2 version)	●
Label printer for glass holder measurement system (H2 version)	●
Swarf collection drawer	●
Contact surfaces covered with brushes	●
Work surface height (mm)	905
Disengagement system for assembly of Vasistas hardware	○

HARDWARE MAGAZINE SYSTEM - H2B Version

Number of storage compartments on the bench	8
Size of compartments on the bench (mm)	340 x 200 x 130
Number of compartments on the storage unit	42
Size of compartments on the storage unit (mm)	210 x 240 x 1.000
Size of the increased compartments (mm)	210 x 240 x 2.000
Hardware identification labels	●

HARDWARE MAGAZINE SYSTEM - H2 Version

Number of storage compartments on the bench	24
Size of compartments on the bench (mm)	230 x 210 x 130
Number of compartments on the storage unit	70
Size of compartments on the storage unit (mm)	230 x 115 x 1.720
Led electronic system for hardware identification	●

SCREWING UNIT

Number of screwing units	2
Screw loaders	2
Pair of additional screw loaders for managing a second type of screw on both screwdrivers	○
Additional screw loader for hinge screws for the screwdriver working on the long side of the sash (X axis)	○

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UNLOADING UNIT:

In-line horizontal extraction workbench	○
In-line extraction workbench with vertical tilting	○

FUNCTIONS

Perimeter automatic hardware shearing	●
Automatic sash rotation	●
Automatic hardware screwing on 4 sides of the sash	●
Door pick up and movement system with central "stulp" stop device	●
Beam position management	●

Included ● Available ○

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