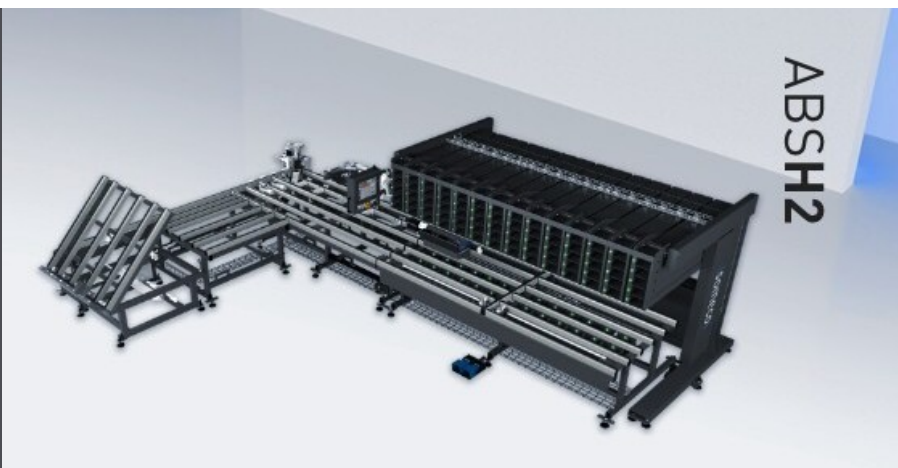




# ABS

## Assembly tables



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.



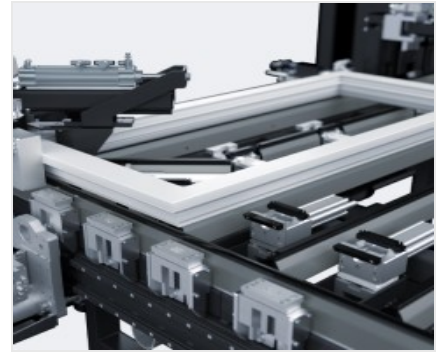
**Automatic screwing double trolley**

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 to transfer large frames and reposition them without any operator intervention, up to the point in which hardware screwing takes place automatically.



**Frame rotation**

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



**Control**

The ergonomic and extremely advanced control panel uses a touch screen display and completely customised software and is full of functionalities developed specifically for this machine, in Microsoft Windows® environment.



**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.





#### LAYOUT



1 - Left version (left to right)

2 - Right version (right to left)

#### CHARACTERISTICS

|  |            |
|--|------------|
| Number of controlled axes                                  | 6          |
| X axis travel - main screwing unit (mm)                    | 3.860      |
| R axis travel - 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 (NI/min)                                   | 1.400      |
| Installed power (kW)                                       | 8          |
| Loading 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 - external dimensions (mm) | 400 x 400     |
| Maximum machinable sash - external dimensions (mm) | 1.250 x 2.700 |

**PRE-ASSEMBLY BENCH**

|  |     |
|--|-----|
| Hardware pre-assembly bench                                    | ●   |
| 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) | ○ |



### UNLOADING UNIT

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

### MODES OF OPERATION

- 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 ○