

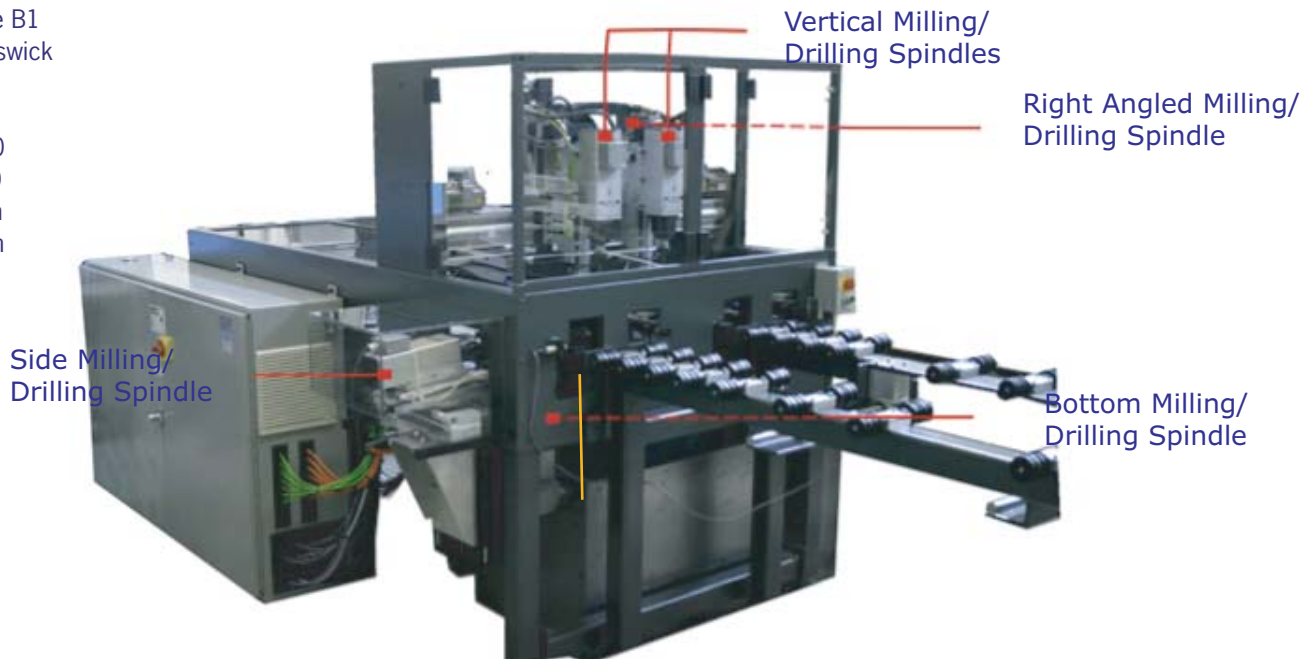


Inconjunction with:



Multi-Axis Window Extrusion Processing System

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Window Extrusion Processing System

System Overview

The window extrusion processing system provides an automated turn-key solution consolidating manual drilling, milling & marking processes into a one operator machine tool.

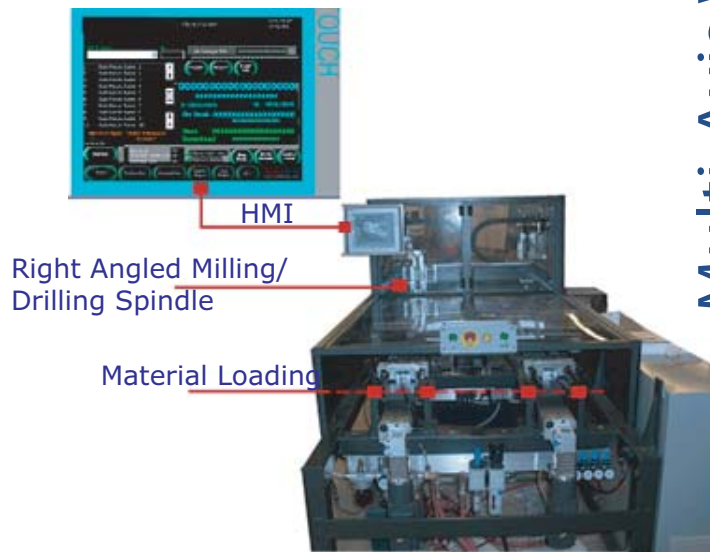
- > Post Saw process
- > Processes 4 extrusions at the same time with options to run any of the 4 individually.
- > Roller conveyor exiting table with operator safety sensors & interlocks allowing for independent loading & unloading by the same or different personnel.

Processing Capabilities

- > Cycle Rate: Varies by Length & user defined holes 80" Frame in under 2 minutes with 30 discrete processes
- > Minimum Extrusion Length: 10 inches.
- > Maximum Extrusion Length: limited only by floor space
- > Processing with or without Brick Mold and/or Nail Fin Attached
- > User defined holes, hole types & locations

HMI & Factory Interface

- > HMI 10" Touch Screen with Windows CE
- > Recipe Driven with Import option as comma delimited flat files as default interface. Customized Interface available.
- > SCADA .
- > Web/Remote Access to HMI for real-time support and monitoring. Security access, event logging & process trending are available upon request.



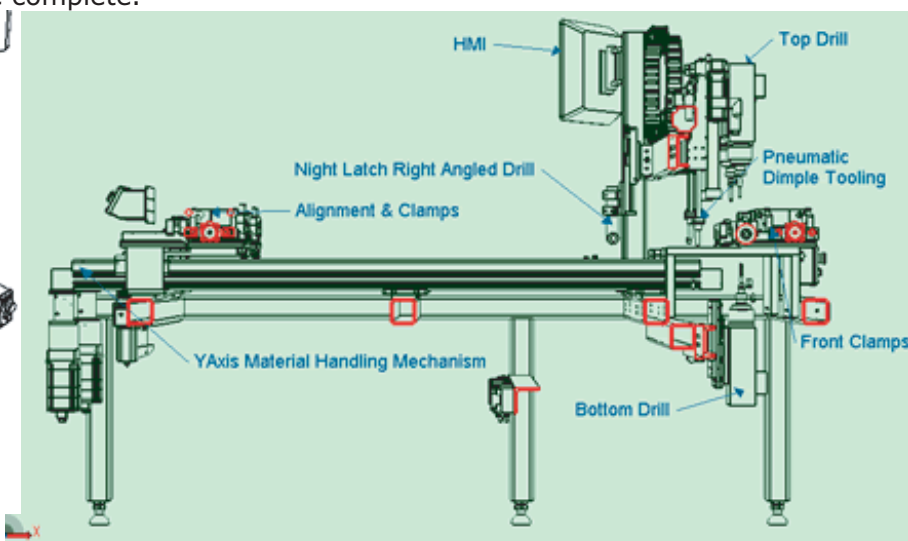
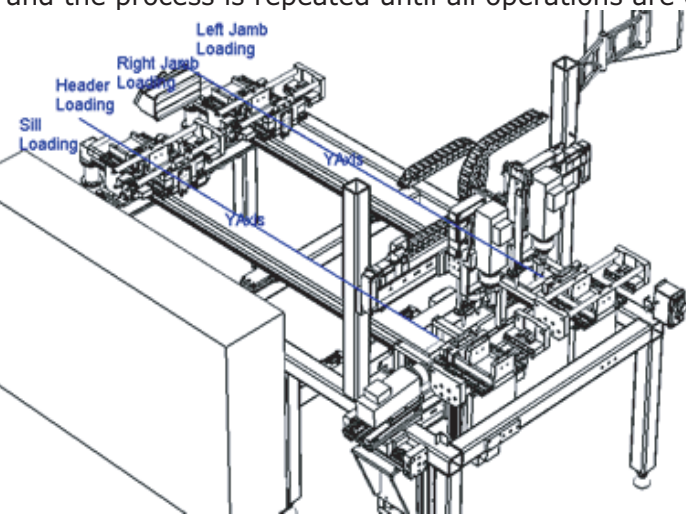
Right Angled Milling/Drilling Spindle

Material Loading

Process Overview

The system incorporates two material handling slides and clamping mechanisms. One slide is dedicated to the Jamb and one slide is dedicated to the Head & Sill portion of the frame. The material handling units are controlled by one controller however can operate independently on the same frame data allowing processing to commence before fully loading all 4 extrusions.

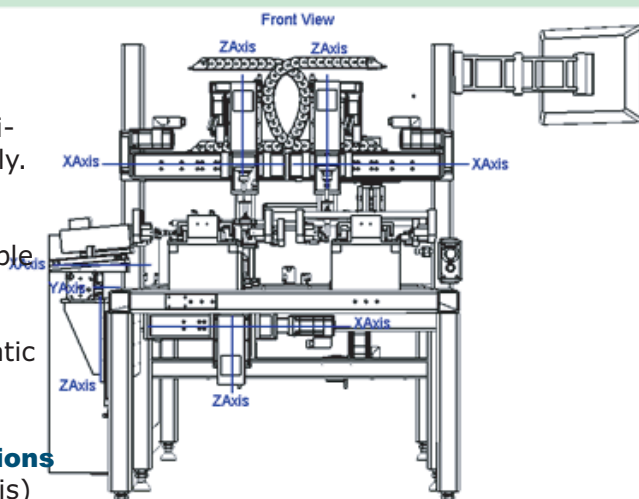
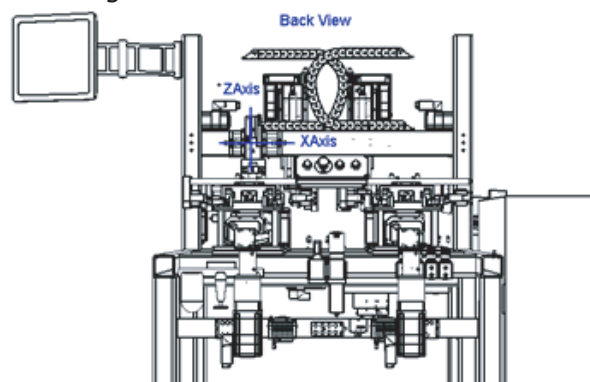
Extrusions are loaded in specific clamping slots from the back of the machine, positioning the pre-cut 45 degree chamfer against a mating 45 degree chamfer position stop on the Y- Axis material handling slide. Once loaded to the reference plane, the operator presses the corresponding start button for the side loaded and processing commences. A set of stationary clamps positioned at the back and the front of machine clamp the extrusion in place allowing the material handling slide to move along the extrusion to the calculated position required to move the extrusion to the first tooling hole position. Once positioned, the material handling slide clamps are activated grabbing the extrusion and the stationary clamps released allowing the material handling slide to move the extrusion to the tooling location. This process repeats until maximum travel in the forward direction is reached. If the extrusion is complete, the material handling unit moves to the maximum travel limit and all clamps are released allowing material removal, if not complete, the material handling slide will back up to either the maximum travel in the reverse direction or the end of the extrusion and the process is repeated until all operations are complete.



Configuration

The Jamb side of the machine incorporates two High Speed Drilling Spindles, one electric and one pneumatic right angle spindle. The electric spindle is mounted on a X-Z table that has sufficient travel to machine both left and right pieces. The pneumatic spindle is also positioned on a X-Z table assembly, but is dedicated to the right Jamb only. The Head/Sill side of the machine incorporates three High Speed Electric Spindles. The side spindle is mounted on a X-Y-Z table with manual adjustment in the Z. The top spindle is mounted on a X-Z table identical to the Jamb. The bottom spindle is also mounted on a X-Z table; the ZAxis being a 3 position pneumatic slide.

Also incorporated in each of the top X-Z table assemblies are pneumatic marking tools for identification.



Technical Specifications

(Based on current 7Axis)

- > Air Consumption with Pneumatic Spindle: 15 CFM @ 110 PSI
- > Voltage: 3 phase delta, 600 volts AC@50Amps
- > Machine FootPrint: 60.25"W X 95"L x 68"H
- > Conveying Table: 75" L
- > Spindles: 2.68hp, 18,000 RPM
- > Pneumatic Spindle: Right Angled 12,000 RPM
- > Network Connection: 10/100 Ethernet

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