

Positioning unit opens the door

Positioning units with linear motors enable fast production of sliding doors.

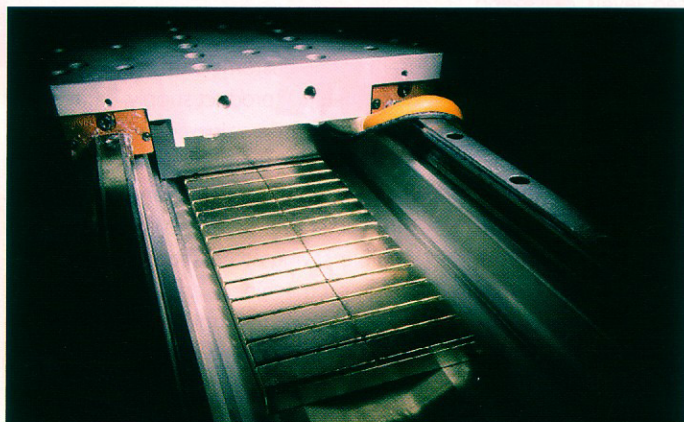
The increasing requirements of the building industry for concealed sliding doors have brought forth the necessity to develop complete and automated equipments dedicated to the manufacture of these products. Crucial features are the very high production volumes and the very short process cycles.

Mecatron Automazione, from Colonnella, Italy, is a well experienced manufacturing company, advanced in the development of technological solutions in the industrial automation and robotics domain. They were committed to deliver high speed (up to 3m/sec), high positioning accuracy ($\pm 0.05\text{mm}$) and repeatability ($\pm 0.03\text{mm}$) for the manufacture of the plant that nails the steel wire mesh to the plate. The two matched components are the core of the door frame. It was a very arduous task to guarantee the requested technical features due to the presence of two driven shafts (X-Y) which move plates up to 2500x1250mm.

The Mondial modules equipped with linear motors offer the requested dynamic and mechanical performances. The MLM positioning units, equipped with linear motors, even enable running speeds up to 3,5m/sec, accelerations up to 20m/sec² and positioning accuracy depending from the linear encoder (dynamic features depend of course from the applied mass). The aluminium alloy profile used for the MLM7 positioning unit has a very good inertia which enables it to act as a self-supporting element. Integration of a linear encoder into the version with guideways with recirculating system and optional guard bellows (for applications at high temperatures the Nomex version is suitable) make the MLM Linear Modules a linear systems able to meet demanding requirements such as the ones of the Mecatron application.

Mecatron's custom-made equipment in combination with the tailored positioning unit meets all the requirements of the product features and the manufacturing process. Thanks to the linear modules the connection mesh/plate of a frame 2200X800 mm is achieved in 25sec, by shooting 66 nails. Global manufacture time of each frame, incl. the transfer adds up to only 35sec.

Mondial @ SLI: 01168



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