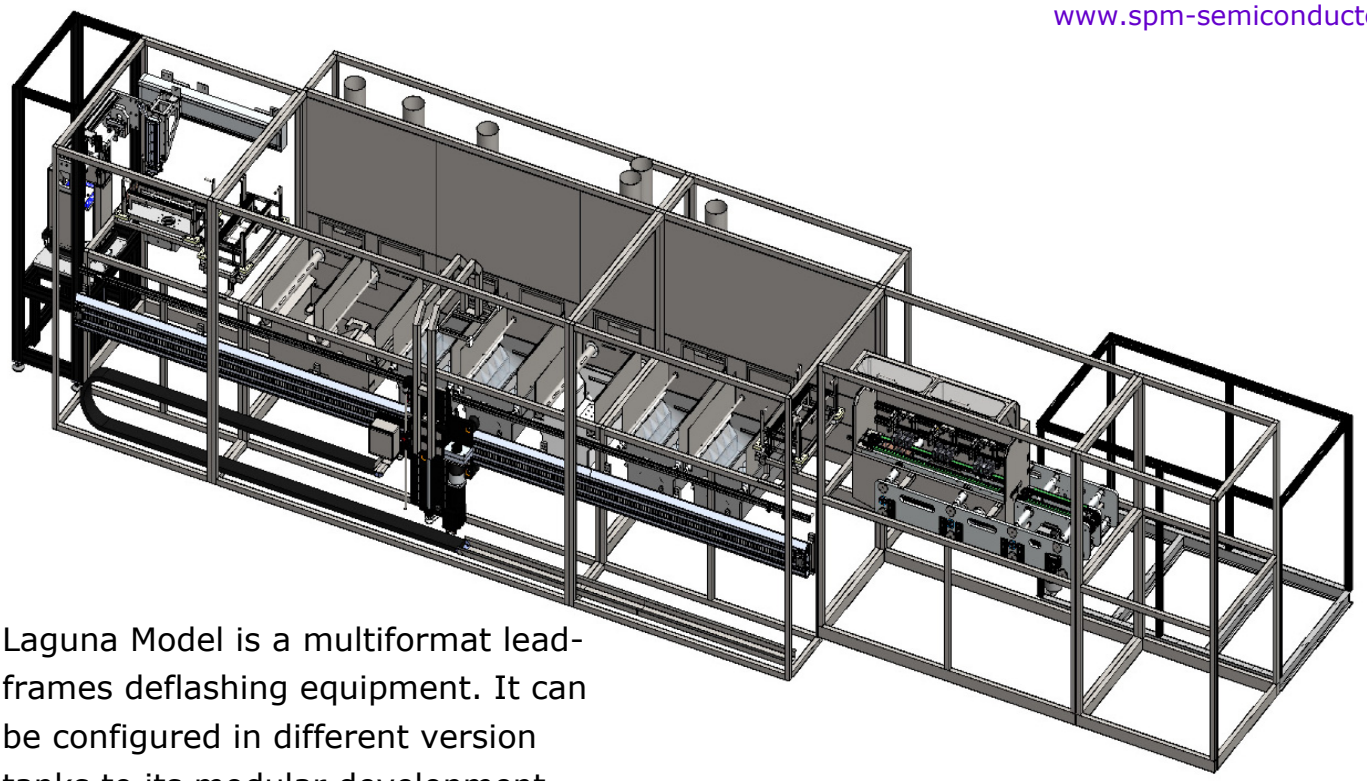
NEW Laguna Model

Automatic deflashing equipment

www.spm-semiconductor.it



Laguna Model is a multiformat lead-frames deflashing equipment. It can be configured in different version tanks to its modular development.

This equipment is highly flexible comparing to other systems. All process timings, temperatures, recirculations can be changed from recipes independently from other stations.

This flexibility make Laguna Model the only deflashing equipment that can be used with different lead-frames size from 20mm to 100mm of width without any conversion.

Productivity of 600 strips/hour.

DELIVERY TIME: 4 working months.

The NEW editions adds a lot of improvements comparing to previous series. A totally new designed water jet conveyor allows to increase performances and quality.

Laguna Model warrant a perfect deflash for all loaded lead-frames without any scratch, chipout, deformation, cosmetic defects, abrasion or cracks of the package.

Features	Performance (MIN)
Up-time	99.98%
MTBA	3 hrs
MTBF	168 hrs
First Pass yield	99.99 %

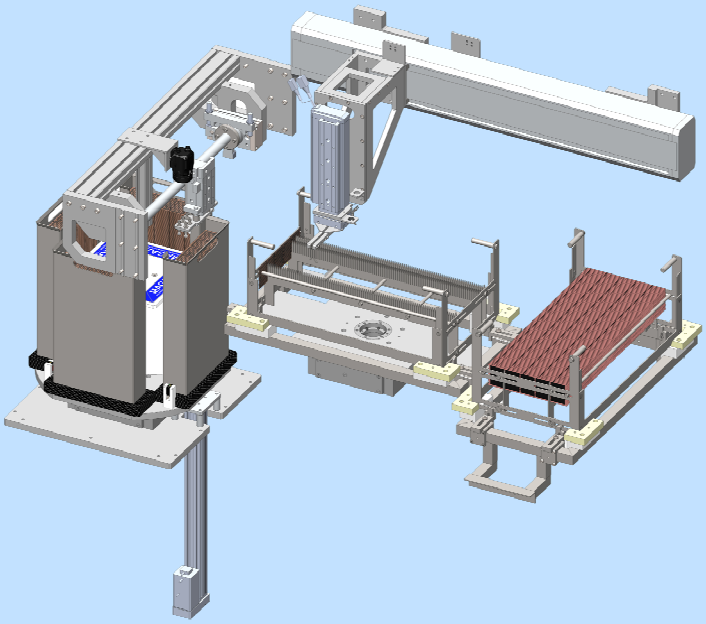
Back-end DEFLASHING

05 November 2013

Special Plastic Module for semiconductor industry

NEW Laguna Model

AUTOMATIC LOAD

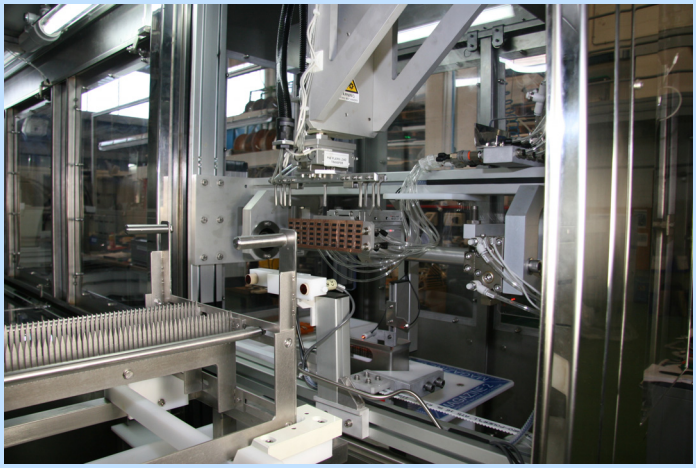


New Laguna Model, like previous version, has the capability to load automatically different format lead-frames catching them from magazine and inserting into our SS316 process carrier. This operation is done with the sequence of servomotor controller axis, that insurance absolute precision and repeatability.

Comparing to older Laguna Model, the design of load module is pretty similar. It changes just the position from front to left side of the machine. That choice is forced because of the robot placed in front position instead of back position like old Laguna Model. An additional rotary table is installed to permit the rotation of process carrier during loading sequence.

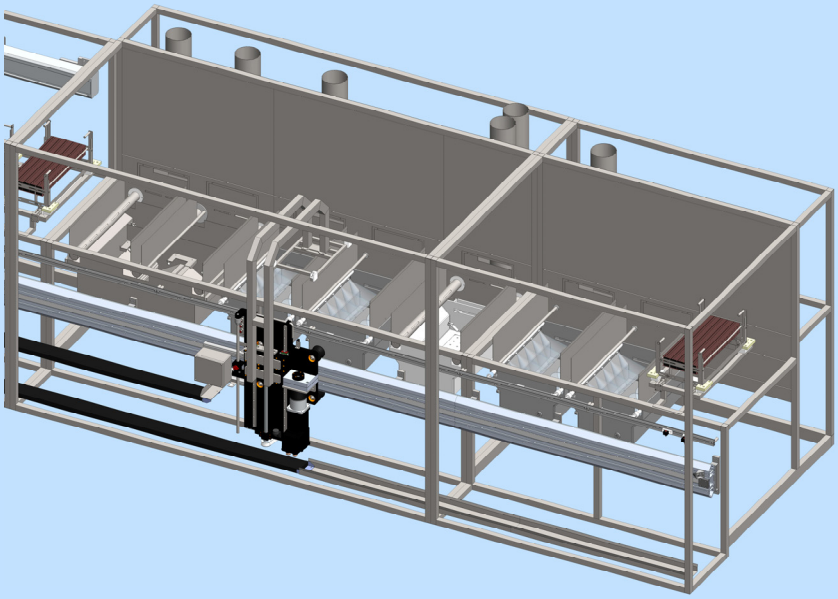
We added also as an OPTIONAL the possibility to install a dedicated vision sensor to detect automatically lead-frames format and strips orientation. That is a great improvement that prevent operator magazine loading error. For every lead-frame inserted we have the capability to detect the strip orientation to ensure the proper deflash.

The capability to load different format lead-frames with just one simple operation is extremely flexible with production needs. Operator has just to change the catching device and change process carriers. All other operation are made automatically by the system. Servomotors will change their position thanks to an advanced software algorithm that ensure the perfect handling of all lead-frames without any damages even with bent strips.



NEW Laguna Model

CHEMICAL SECTION



Several configuration can be applied to tanks. Materials, recirculation, filtration and thermoregulation are some of option that can be installed.

Our standard configuration iof chemical section is: 3 process tanks and 4 rinse tanks.

Tank 1 and 2 are dedicated to DEFLASH with immersion de-flash chemical . These process tanks are realized in electropolished SS316, that warrant best result of chemical compatibility. These tanks are provided with recirculation with filters, thermoregulation with dedicated heaters, automatic chemical inlet and automatic drain with OPTIONAL cooling tank.

Tank 3 and 4 are rinse tanks and they are made in PE. Rinse tanks can be configured as dump rinse or just overflow. Buffer tanks recover water from the second rinse tank to be used again on the first with the objective to reduce water consumption.

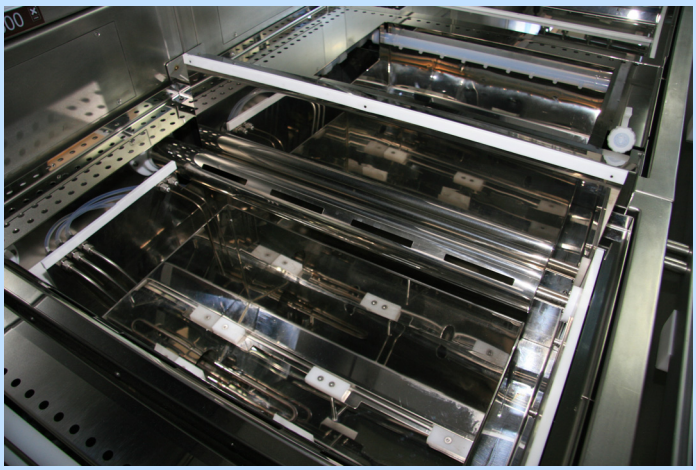
Dedicated buffer tanks stock hot water for a HOT SPRAY rinse action that ensure faster cleaning process.

A SS safety tank has the scope to contain accidental leakage.

Tank 5 is dedicated to Neutralizing Pro-cess. It can be realized in plastic material or in SS316. Also this tank is provided with recirculation, thermoregulation, automatic chemical inlet and automatic drain.

Tank 6 and 7 are other rinse tanks that ensure the proper rinse before waterjet section.

All tanks are provided with NEW design SS316 special covers that ensure lower chemical evaporation and no process contamination.



NEW Laguna Model

TANKS ROBOT

Process carrier are transferred from load section to chemical tanks with a 2 servo-controlled axis robot.

This robot is designed by SPM mechanical engineer to ensure fast and smooth movements in order to have high productivity and at the same time no stress for lead-frames.

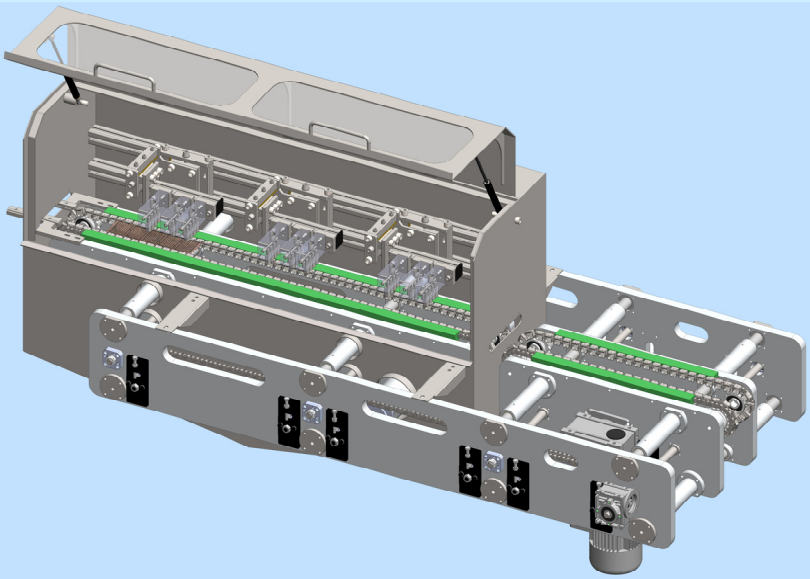
The software management ensure a perfect synchronism between cycles avoiding oversoaking and with high performance in term of productivity.

The robot is capable to manage up to 4 process carrier at the same time. All process parameters are always under control and in case of problems (for example excess of heating), special automatic abort sequence will extract carrier from chemical and put into rinse tank, avoiding strips damage.

Maintenance is very low and it is facilitate with the robot in front position with full open inspection door protected by mechanical interlocks for safety reasons.

NEW Laguna Model

WATERJET SECTION



After chemical section lead-frames are transferred from process carrier into the waterjet conveyor. This operation is done one by one with servomotor controlled axis.

The conveyor is capable to process different size of lead-frames without any manual operations. Servomotor controlled axis change width dimension and speed according to recipe parameters.

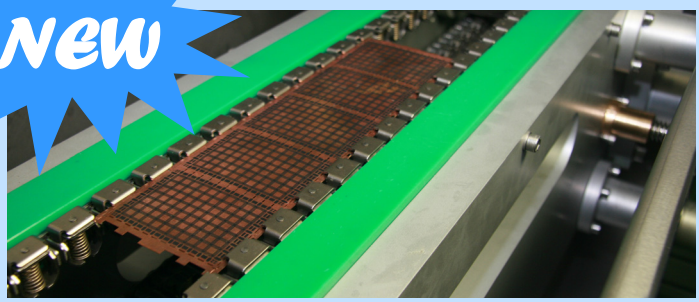
The NEW design of the conveyor ensure a better deflash process with higher speed and reliability. The new design consist of a special gripper chain that clips lead-frames in different points warranting a highly stable transportation under hi-pressure jets without any risk of strips deformation.

NEW design also for nozzle blocks that are fully adjustable with a 3 axis manual guides. Every nozzle block has a dedicated automatic vale and a pressure switch. From recipe will be possible to adjust operating pressure and select witch nozzle block activate, saving water and power consumption.

Waterjet pump is capable up to 500 Bar (optionally up to 650) at 30 liters/min. To ensure power consumption reduction we added an inverter that permits to change dynamically motor speed according to working necessity, saving also pump parts consumption.

A dryer is placed on the conveyor after hi-pressure section. A blower with an heater allow to dry strips in less than 2 seconds before unload section.

As an OPTIONAL, Laguna Model can be equipped with an advanced vision system for visual inspection of the surface of plated lead-frames and plate position inspection. That ensure an automatic check of all lead-frames before unloading.



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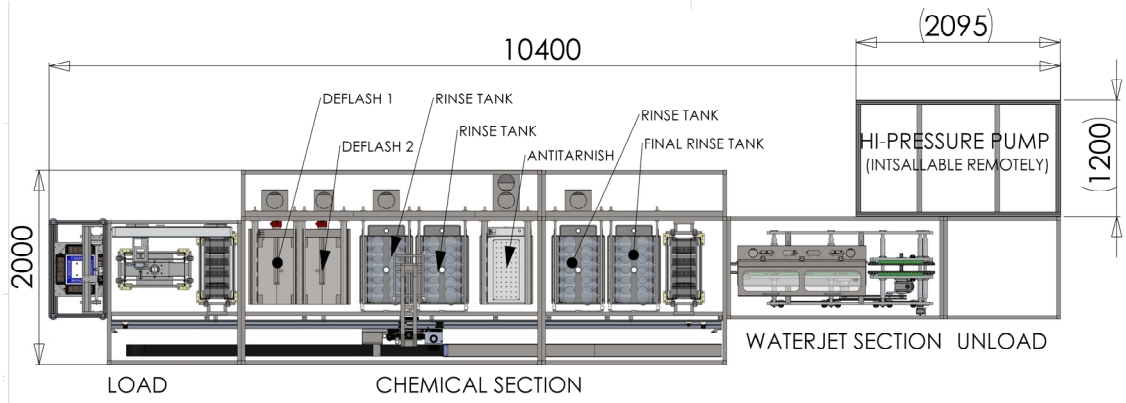

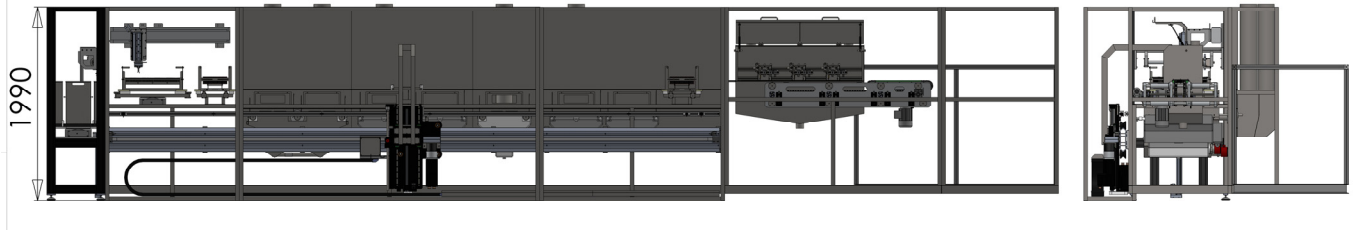

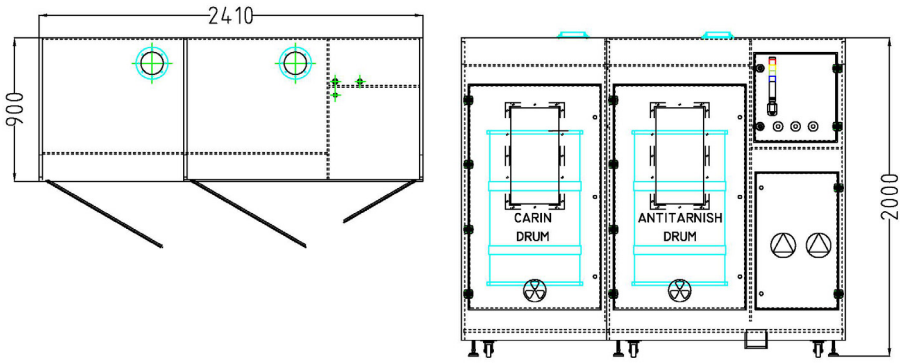

CDS FOR 2 DRUMS

OPTIONAL:
CHEMICAL DELIVERY SYSTEM (CDS)

For futher information don't hesiatate to contact us!

Special Plastic Module for semiconductor industry

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