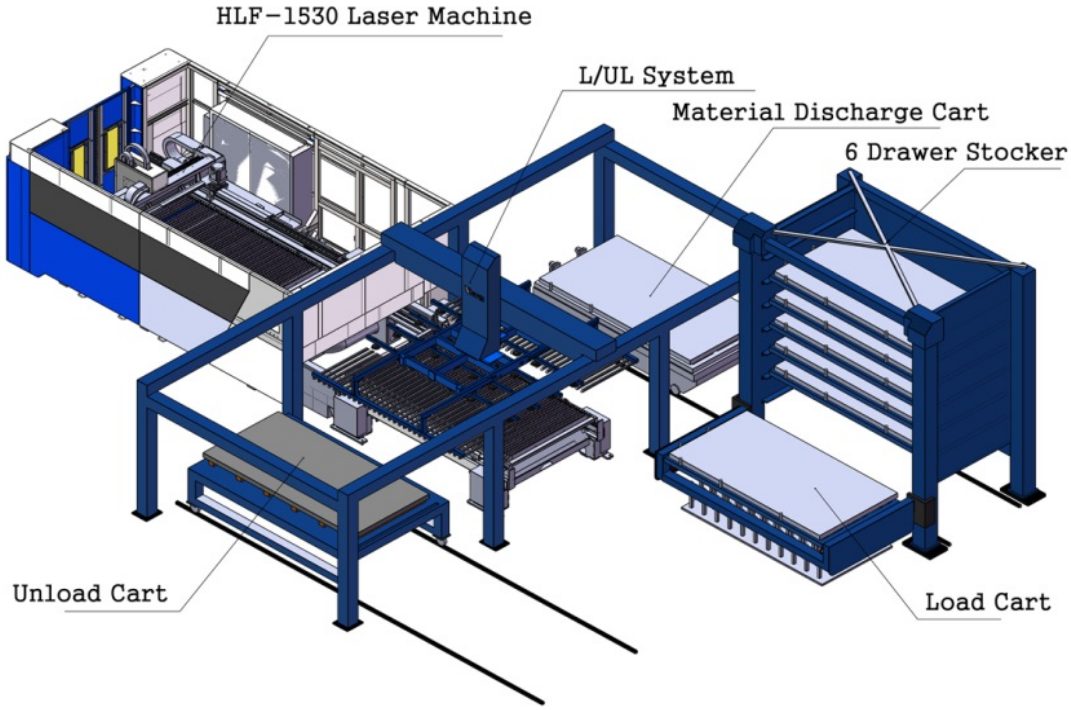
Yawei-Laser L/UL Systems

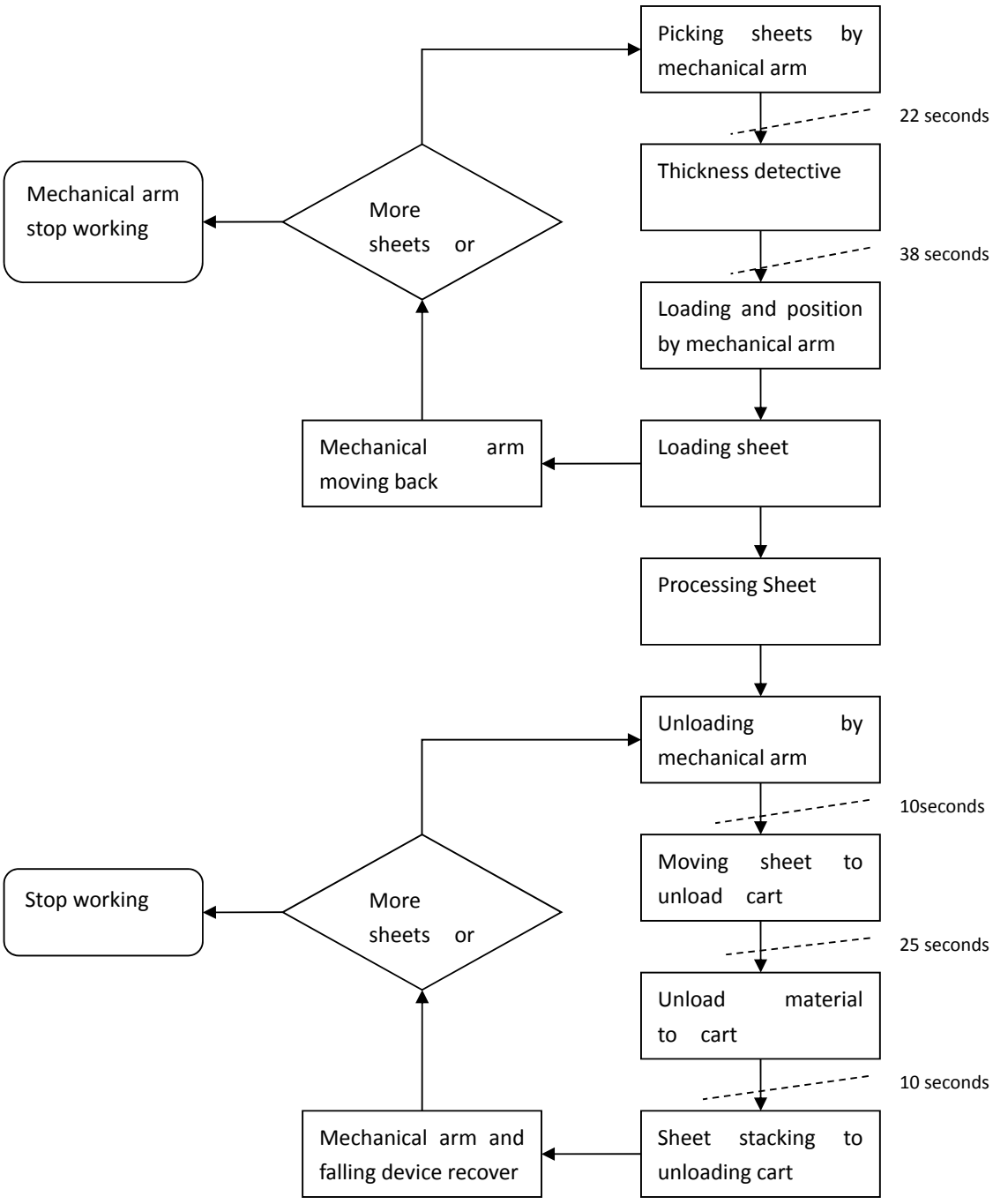
JIANGSU YAWEI MACHINE-TOOL CO.,LTD

Laser L/UL with Stocker

CNC Laser machine is integrated with Material stocker, Loading system, Laser machine and Unloading system. The L/UL function consist of moving a work piece onto work table of laser machine, cutting part(s) , removal of work piece and part stacking . Fast cycling time – 105 sec , both machine and L/UL works simultaneously, does not add to cutting time. Approximate stocker to load cart time of 60 sec.



Production Flow Pass-Thru L/UL Start Load Cycle

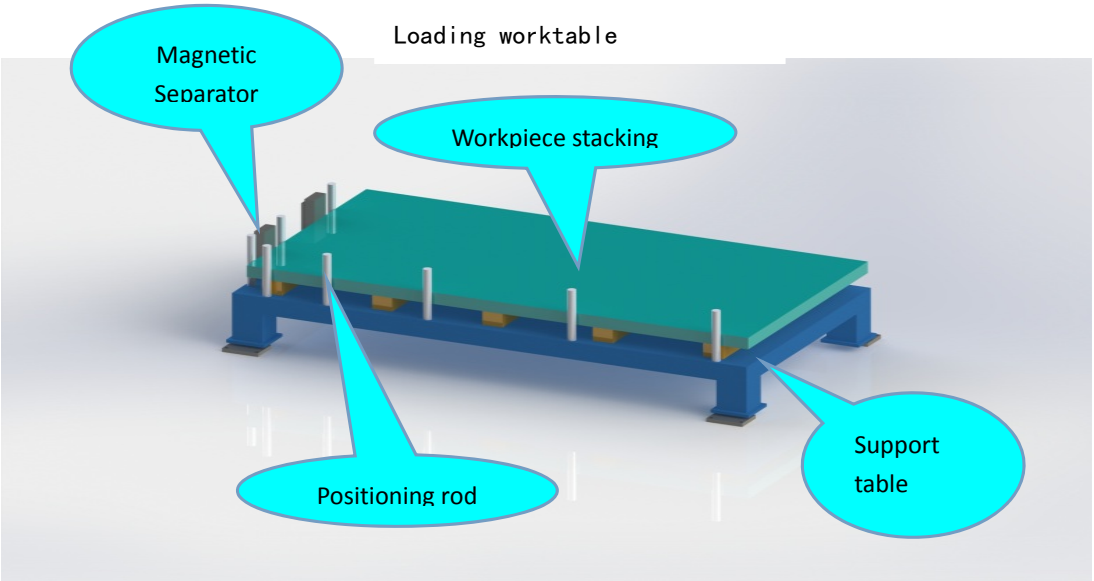


Note: During the duty-cycle operation, L/UL system and Laser machine works simultaneously, L/UL processing will not increase the working time. For example, Loading system will start processing next work piece while the cutting process is finished . Pickup time from stocker to load cart – 60 sec.

Standard Device structure and technical features

Loading Cart/worktable

- Storage of work pieces ready for punching-Maximum weight 3000KG
- Sheet positioning rods in X,Y direction, ensure work piece stacking – Maximum stack height 220mm
- Fine adjustment device for reposition of work piece stacking
- Magnetic separating device to ensure separation of work piece

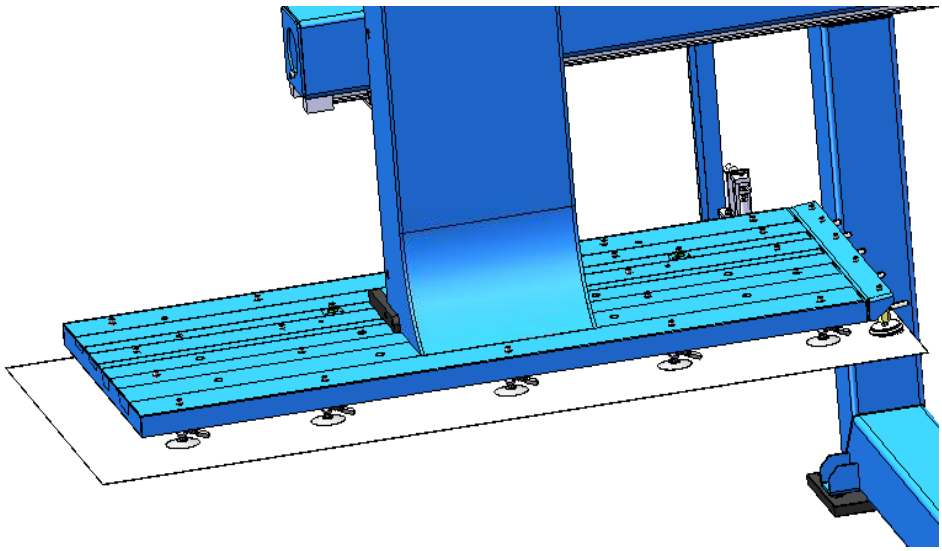


a. The maximum measurement of work piece is 1500x3000mm. The worktable can bear the weight of 3000kg.

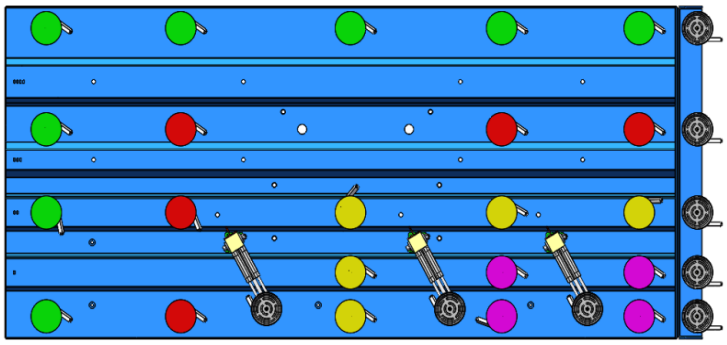
b. Magnetic separating device can separate mild steel, stainless steel with plastic film , Clad or Galvanized sheet material . Invalid for those non metallic materials that can not be affected by magnetic force, such as aluminum.

3) Automatic loading system

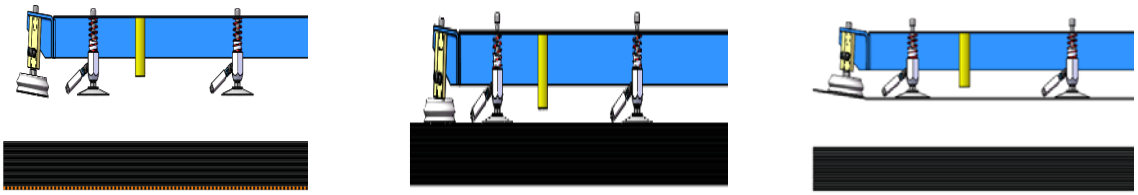
- Vacuum cup with Simulating flexing- grasp motion
- C-structure, more flexible,
- Reducing noise
- Edge lifting device ensures sheet separation
- Thickness proofing device
- Servo drive device



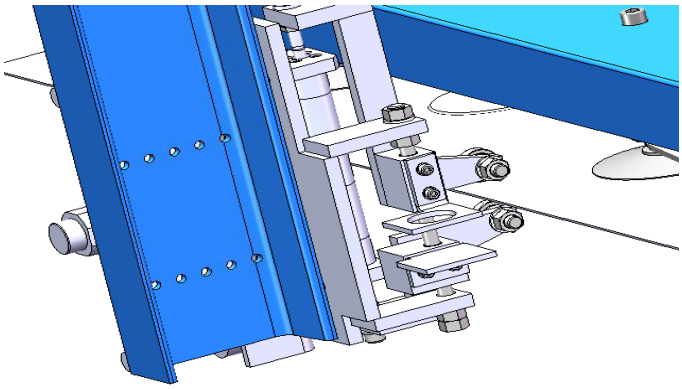
Mechanical arm (with vacuum lift)



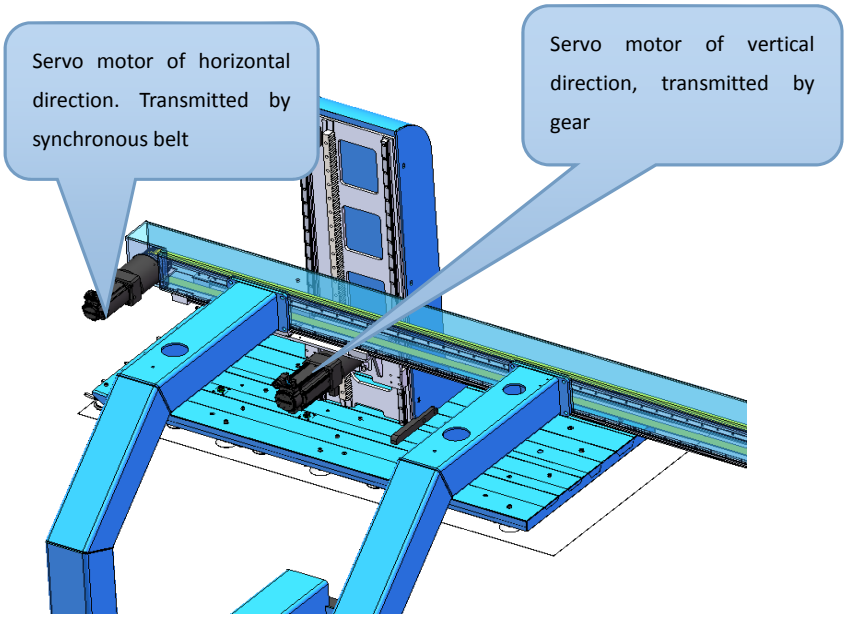
Selection of Vacuum cups based on part size



Edge lifting device to help separate sheets

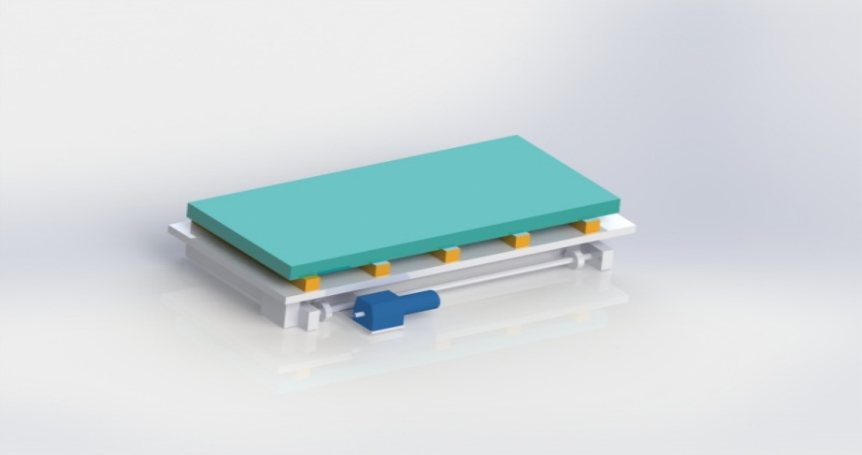


Thickness proofing device to verify single sheet



Servo Driving system for speed and accuracy

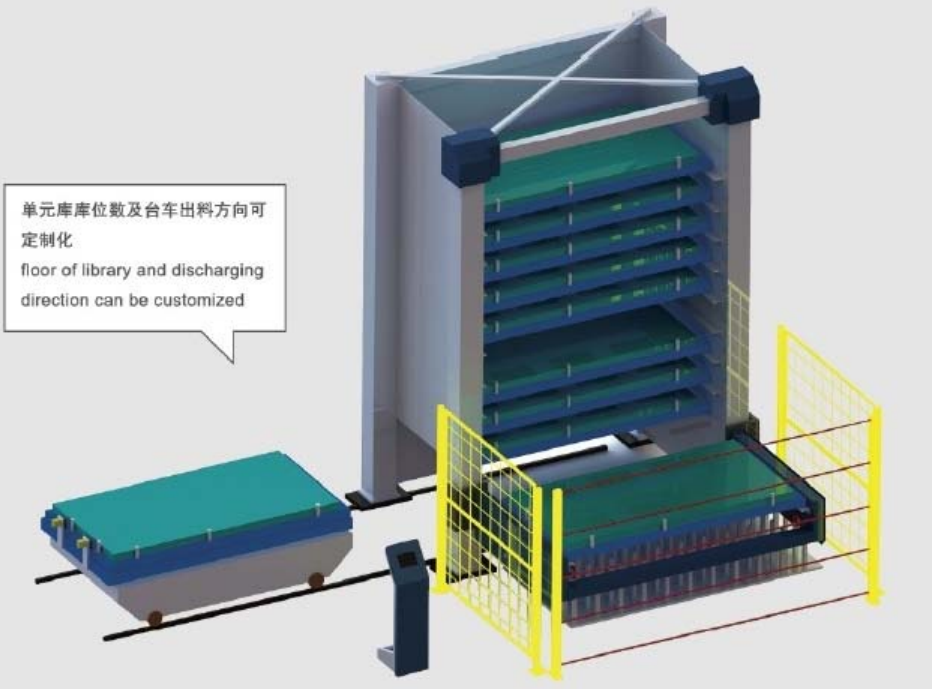
Finger design for unloading of parts



Unload Cart

- Automatic stacking of sheet by unloading arm
- Easy access for part removal

New intelligent 3D material library unit consists of library body, stacker, discharging trolleys, safety fence and other components. The entire stack of raw material can be loaded on the sheet correcting device by forklifts or traveling crane. The raw material will be corrected before imported to specified location by stacker. The stacker can export sheets from any level in the library into the discharging trolley, which will transport the sheets from side of the library and dock with the loading manipulator. Discharging trolley equips with a sheet detection device, to ensure the separation of sheets. Meanwhile discharging trolley equips with a sheet detection device, can detect whether there is sheet on the tray. if not, the device will alarm and stop feeding. A climb ladder and top safety fence can be equipped according to customer's requirements.



参数项 Name		单位 Unit	配置1 Configuration 1	配置2 Configuration 1
最大储存板料尺寸	Max.Stock sheet size	mm	3050×1525	2500×1250
最小储存板料尺寸	Min.Stock sheet size	mm	800×400	800×400
每层最大装载高度（不含托盘）	Max. Loading height of each layer (without tray)	mm	220	220
库位数	Library	层数 layer	6（可定制 customized）	6（可定制 customized）
每层最大承载	Max. Loading weight of each layer	Kg	3000	3000
进料机速度	Import speed	m/min	15	15
出料台车速度	Discharge speed	m/min	15	15
提升机速度	Elevator speed	m/min	20	20
功率	Power	kw	10	10
料库总高（标配货位数6）	Total height(standard 6 layers)	mm	5000	5000

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PLC Operation

LUL system is controlled by a PLC designed to allow for full operation of the system for easy operation of each Load/unload cycle. Simple G-code in Punch program starts L/UL sequence.