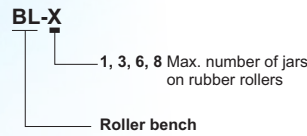


## Slurry preparing

### Roller benches BL - series

- adjustable rotation speed and time
- adjustable to different jar sizes

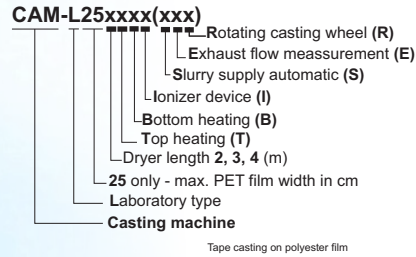
Models:



## Tape casting

### Laboratory tape casters L-series

- for laboratory or small production volume
- casting on PET film
- casting speed control
- gravity slurry feeding
- tape winding

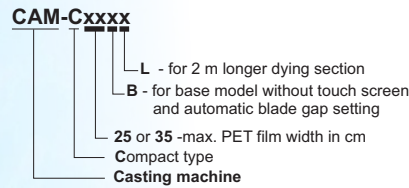


Tape casting on polyester film



### Compact tape casters C-series

- compact size requiring minimum floor size
- suitable for solvent and water based systems
- high accuracy in thickness control
- automatic tracking of carrier film
- automatic slurry feeding
- applicable for up to 100 micron tape thickness

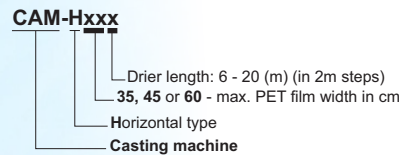


Tape casting on polyester film



### Horizontal drying zone tape casters H-series

- thickness 5-500 microns (0.2 - 2 mils)
- advanced drying regimes possible
- high accuracy in thickness control
- automatic tracking of carrier film
- automatic slurry feeding

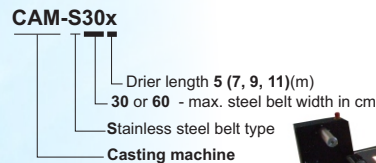


Tape casting on polyester film

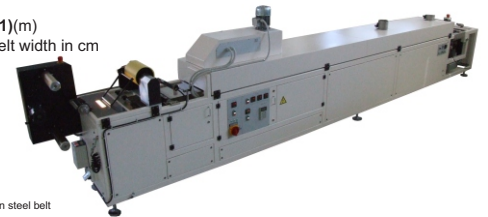


### Steel belt tape casters S-series

- suitable for price sensitive applications
- different drying regimes
- high accuracy doctor blade
- automatic tracking of steel belt
- automatic slurry feeding
- tape winding



Tape casting on steel belt



## Tape blanking

### Automatic green tape blanker SC-series

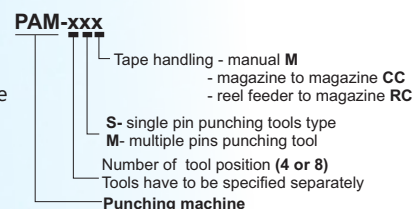
- blanks single sheets from a roll of green tape
- suitable for freestanding or Mylar based tapes
- trims sheet edges
- punch registration holes
- transfers blanked sheets to a magazine
- sorting blanked sheets according to their thickness



## Tape punching

### Punching machine PAM-series

- punch holes for vias and registration in green tape
- punch cavity rectangle or square holes
- manual, CAD, NcDrill and DXF file input
- tool breakage detection
- automatic sheets re-alignment
- vision inspection option



Especially suitable for LTCC production



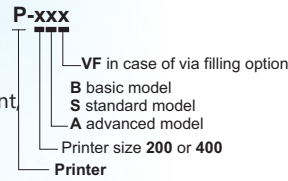
## Screen printing

### Screen printers

#### P - series

- Three models available to meet all requirements
- Fully programmable printing parameters
- Print/print, print/flood, flood/print, on contact print, stencil printing, via filling
- Extensive options for demanding advanced technology applications

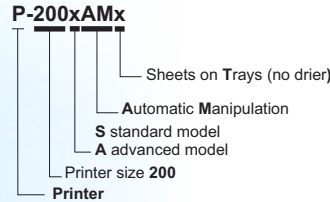
#### Models:



### Automatic screen printers

#### P-series

- Automatic sheet handling, printing, drying process
- Two models available to meet all requirements
- Fully programmable printing parameters
- Print/print, print/flood, flood/print, on contact print, stencil printing, via filling and screen cleaning
- Extensive options for demanding advanced technology applications

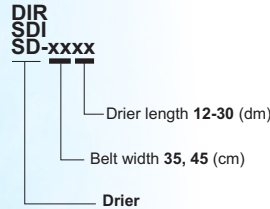


## Drying

### Drier

#### SD, SDI, DIR - series

- drying sheets, substrates, wafers, hybrids
- airflow ensure high drying efficiency
- adjustable internal and fresh airflow circulation
- sheets are transported by teflonized mesh belt
- IR fast drying available
- height adapted to Keko screen printers

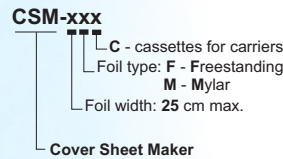


## Cover sheets making

### Cover sheets maker

#### CSM-series

- Makes cover sheets directly onto carrying palette from a roll of tape
- Glues the cover sheet to custom carrying palette
- Sheet blanker and press in one unit

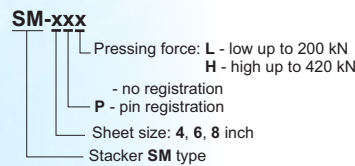


## Stacking

### Stacking press

#### SM-series

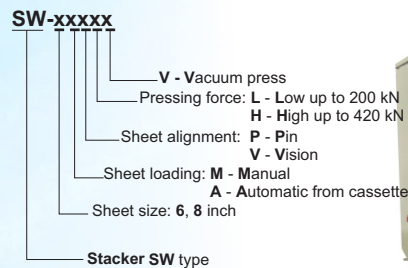
- Simplified manual stacker
- Uniaxial lamination possibility
- Registration can be done by registration pins
- High pressing force up to 42 tons



### Universal stacker

#### SW, SWU-series

- Manual or automatic stacking machine for low to medium LTCC or other similar component production
- Suitable for tapes with or without carrier film
- Process on vacuum plate
- Possible to start building stack from top or from bottom
- Vacuum press for bubbling sensitive foils



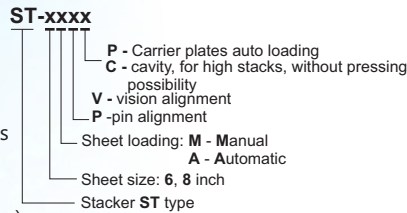
## Stacking

### Stacking machine

#### ST-series

- Automatic sheet loading from cassettes
- Carrier palette automatic loading / unloading
- Automatically removes carrier film first, than stacks
- Pre-registration
- Automatic vision alignment
- Suitable also for very high layer count (MLCC, piezo)
- Not suitable for tapes with punched holes

#### Models:



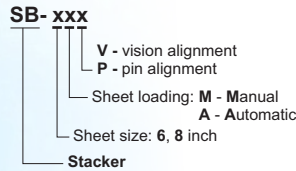
Process on one carrier palette at the same time



### Stacking machine

#### SB - series

- Automatic sheet loading from cassettes
- Carrier palettes automatic loading / unloading
- Pressing first than removing carrier film
- Pre-registration
- Automatic vision alignment
- Suitable for high volume production
- Suitable for various components (up to 50 layers stack), especially MLC



Standard 24 carrier block carousel transport

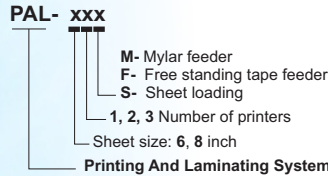
## Printing & stacking

Print on stack technology

### Printing and stacking machine

#### PAL - series

- Universal system for components up to 100 layers
- High productivity = low cost per component
- Suitable for smallest components size
- Uses carrier film tapes, freestanding tapes and individual sheets
- Special configurations like:
  - several printers
  - several driers
  - sheet vision alignment
  - other special requirements



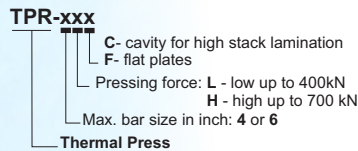
Contact supplier for particular application

## Laminating

### Uniaxial thermal press

#### TPR - series

- Multiple stacks are laminated simultaneously
- High stack lamination possibility
- Simplified versions available
- Easy to operate, quick product turn-around time
- Rigid, compact design takes little floor space



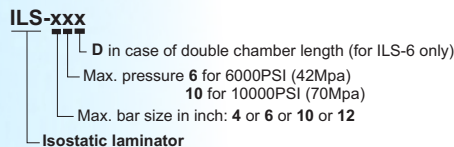
Higher forces an vacuum chamber on request



### Isostatic lamination press

#### ILS - series

- Up to 40 stacks/substrates laminated simultaneously
- Wide selection range of bar size
- Easy to operate, quick product turn-around time
- Rigid, compact design takes little floor space
- Stores up to 99 pressure programs



Vacuum sealing device included

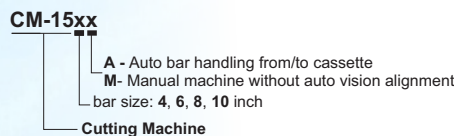


## Cutting

### Cutting machine

#### CM-series

- Cuts the most difficult high thickness green Ceramic Ware
- Automatically positions knife with high accuracy
- Automatically finds cutting markers
- Adjustable speed and cutting depth
- High productivity due to high cutting speed



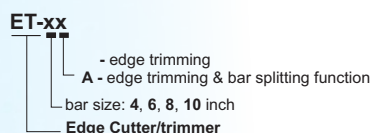
Pre and post heating plates optionally



### Edge Trimmer

#### ET-series

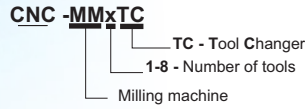
- Simple, flexible and accurate
- Bar Edge trimming and Splitting possibility
- Laser pointers installed for precise block positioning



**Ceramic machining**

**CNC Milling machine  
CNC - MM**

- Cuts any shape out of green ceramic
- Drills holes
- Automatically positions bar by vision system
- DXF file conversion
- Vacuum bar fixing
- Two spindle simultaneous operation option



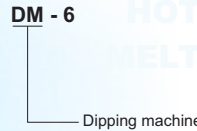
Contact producer for detailed specification!



**Termination**

**Dipping machine  
DM-series**

- Fully programmable dipping conditions ensures accurate and excellent termination
- Simple programming, more than 50 dipping programs can be stored
- Truth chip leveling mode ensure uniform dipping height
- High speed, high accuracy servo motors positioning
- Easy cleaning features



Contact producer for detailed specification!



**Inspection**

**Print inspection  
KVI**

- Designed for inspecting green ceramic sheets
- Inspect wet and dry prints, via holes
- High inspection resolution
- Detects shorts, opens, neck downs, mouse bites, screen stretch screen misalignment, contamination



**Measuring**

**Measuring microscope**

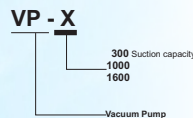
- Travel(X, Y) : 300 x300 mm Z : 120mm
- Resolution : 0.001mm Linear scales in 2-axes



**Vacuum generating**

**Vacuum pump  
VP-series**

- For vacuum supply
- Consist of: vacuum pump, reservoir, electrical control with vacuum level switch switching pump on / off, vacuum filter



**Materials and Technology**

Based on experiences and cooperation with institutes in field of material and technology development, Keko Equipment new strategy is offering complete solutions for multilayer ceramic products, including compatible materials, technology and machines. Please contact Keko equipment for particular solution.

**Custom designed machines**

Our machines are developed, designed and produced in our house.

1/17

One of Keko Equipment strongest part is custom designed equipment based on custom requirements and our long term designing and machines production experiences.

Many customers are satisfied with our innovative solutions adapted to their needs.

Experienced production team is guaranty for quality and success.

Contact us, if you are looking for custom solution, which you can not find on the market.

**KEKO EQUIPMENT**

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