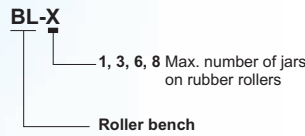


Slurry preparing

Roller benches BL - series

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

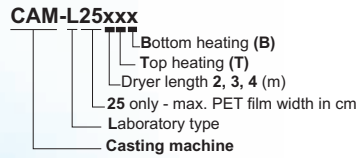
Models:



Tape casting

Laboratory tape casters L-series

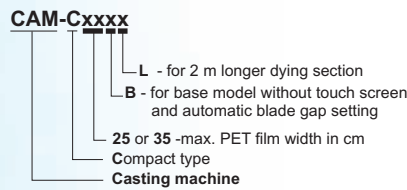
- for laboratory or small production volume
- casting on PET film
- casting speed control
- gravity slurry feeding
- tape winding



Tape casting on polyester film

Compact tape casters C-series

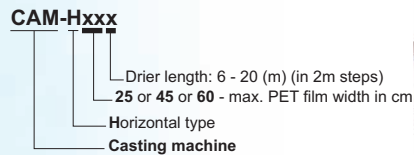
- compact size requiring minimum floor size
- suitable for solvent and water based systems
- high accuracy in thickness control
- automatic tracking of carrier film
- automatic slurry feeding
- applicable for up to 100 micron tape thickness



Tape casting on polyester film

Horizontal drying zone tape casters H-series

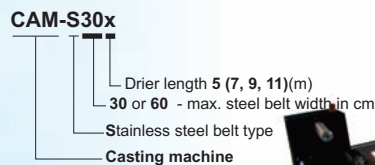
- thickness 5-500 microns (0.2 - 2 mils)
- advanced drying regimes possible
- high accuracy in thickness control
- automatic tracking of carrier film
- automatic slurry feeding



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

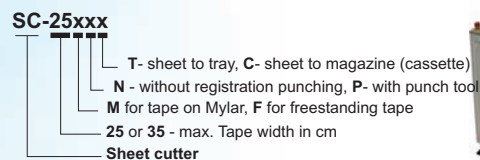


Tape casting on steel belt

Tape blanking

Automatic green tape blander SC-series

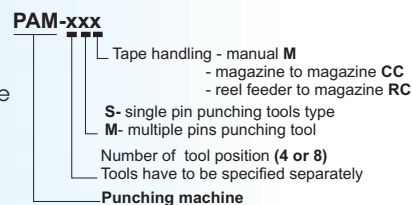
- blanks single sheets from a roll of green tape
- suitable for freestanding or Mylar based tapes
- trims sheet edges
- punch registration holes
- transfers blanked sheets to a magazine
- sorting blanked sheets according to their thickness



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 brakage detection
- automatic sheets re-alignment



Especially suitable for LTCC production

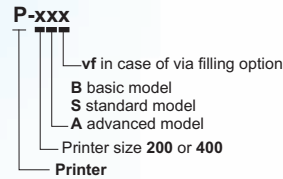
Screen printing

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

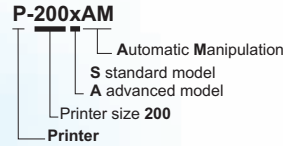
Models:



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

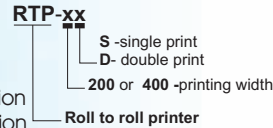


Roll to roll printing

Automatic roll to roll screen printers

RTP-series

- Automatic screen printing on to tape from a roll suitable for different application
- Advanced print alignment feedback
- Double color printing with precise alignment version
- Specially designed for MLCC high layers production
- Efficient tape drying- ensure short cycle time
- Printed tape tracking control on winding side

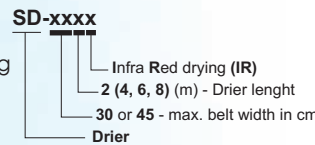


Drying

Drier

SD-series

- dry single sheets, substrates or wafers after printing
- air flow ensure high drying efficiency
- adjustable internal and fresh airflow circulation.
- sheets are transported by teflonized mesh belt
- IR fast drying version available
- height adapted to Keko manual screen printers

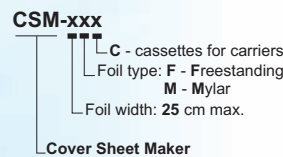


Cover sheets making

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

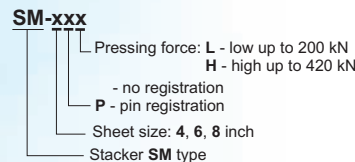


Stacking

Manual stacker

SM-series

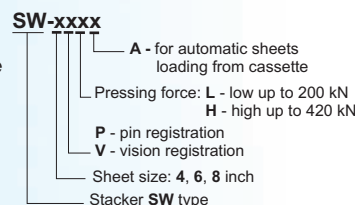
- Simplified manual stacker
- Uniaxial lamination possibility
- Pre-registration can be done by registration pins



Stacking machine

SW-series

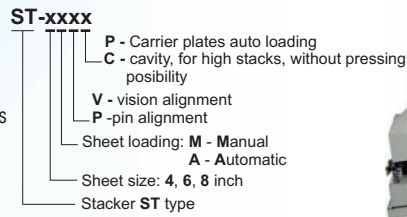
- Universal manual or automatic stacking machine for low to medium LTCC or other similar component production
- Suitable for tapes with or without carrier film
- Process on one carrier palette
- Possible to start building stack from top or from bottom



Stacking

**Stacking machine
ST-series**

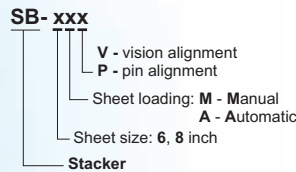
- Automatic sheet loading from cassettes
- Carrier palette automatic loading / unloading
- Automatically removes carrier film first, than stacks
- Pre-registration is done by registration pins
- Automatic vision alignment
- Suitable also for very high layer count
- Not suitable for tapes with punched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



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 is done by registration pins
- Automatic vision alignment
- Suitable for high volume production
- Suitable for various components



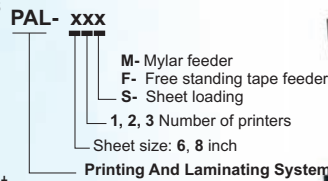
Standard 24 carrier block carousel transport

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

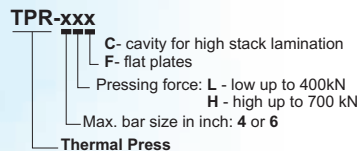


Contact supplier for particular application

Laminating

**Uniaxial thermal press
TPR - series**

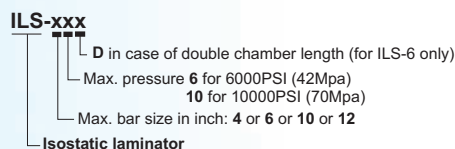
- Multiple stacks are laminated simultaneously
- High stack lamination possibility
- Simplified versions available
- Easy to operate, quick product turn-around time
- Rigid, compact design takes little floor space



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

CM-15xx

- **A** - Auto bar handling from/to cassette
- **M** - Manual machine without auto vision alignment
- bar size: **4, 6, 8, 10** inch
- Cutting Machine

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
- Heated cutting table and cutting blade

ET-xx

- edge trimming
- **A** - edge trimming & bar splitting function
- bar size: **4, 6, 8, 10** inch
- Edge Cutter



CNC drilling

**CNC Drilling machine
DM-series**

- Cuts round components out of green ceramic
- Drills holes
- Automatically positions bar by vision system
- Two working spindles with programable cutting speed above using two different cutting tools
- DXF file conversion
- Vacuum bar fixing

DM-xx

- **R** - For routing capabilities
- bar size: **6, 8, 10** inch
- Drilling machine



Solar and SOFC cells printer

**Automatic solar cells printing line
SOC-series**

- Automatically prints electrodes on to solar silicon wafers or thin ceramic SOFC substrates
- Loads wafers from cassettes or inline integration
- Unique, high speed self cleaning wafer/substrate transport ensures minimal manipulation and low breakage
- Short exchange time for different dimensions
- Vision alignment and breakage check
- High precision screen printing with precise squeegee control prints the electrodes
- IR drier for efficient drying
- Modular design, for different configurations
- Automatic unloading in to cassettes or on to furnace belt



HOT MELT

**Automatic solar cells printing line
SOC-series
2011**



Contact producer for detailed specification!

Custom designed

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

10/11

One of Keko Equipment strongest part is custom designed equipment basted 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

Grajski trg 15
8360 Zuzemberk
SLOVENIA, EU
Tel: +386 7 3885 200
Fax: +386 7 3885 203

www.keko-equipment.com

info@keko-equipment.com