

# VEGO Dynamic LSB 03



# LSB 03 Bareboard Loading System

- › Separation of unpopulated PCB's
- › Processing of PCB stacks starting from top
- › Separation is independent of the stack weight
- › Different separation varieties selectable:  
clamping – vacuum – combined
- › Easy exchange of the separation unit
- › No adjustment of PCB thickness necessary
- › Fast and easy stack loading from the top

One machine for all PCB types

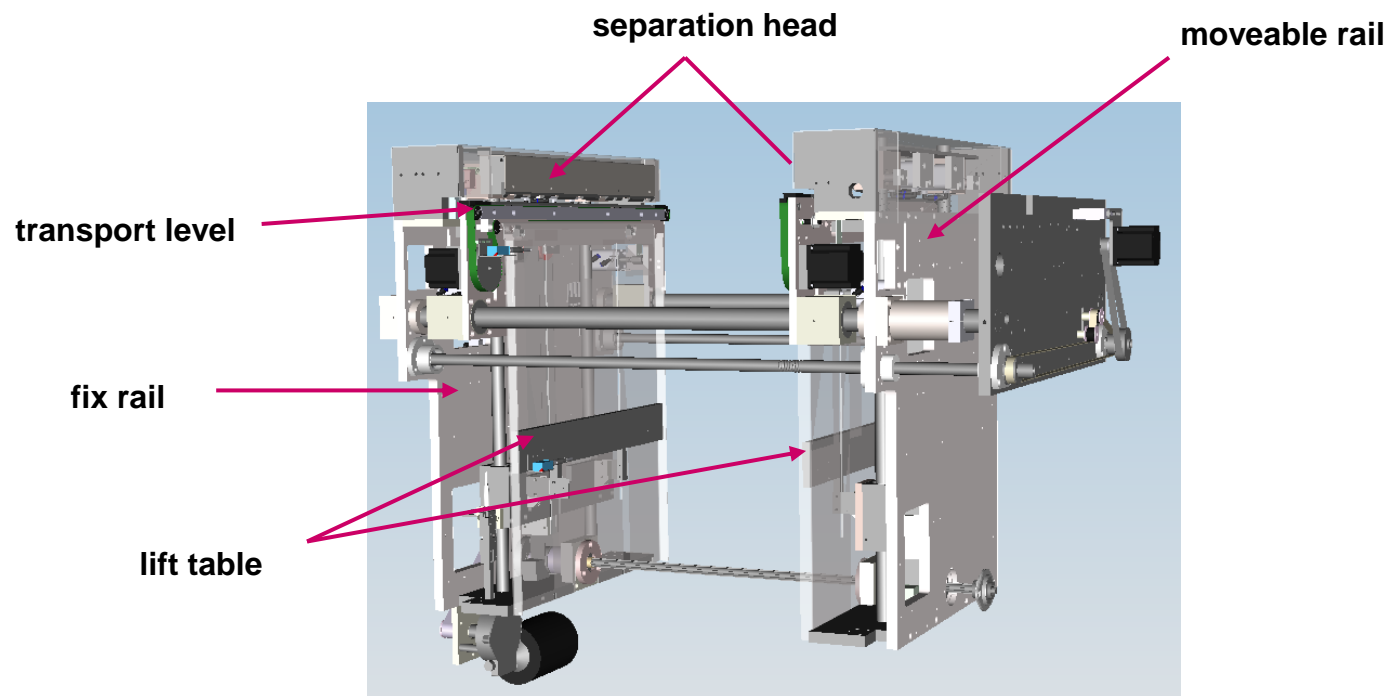


# LSB 03 Technical Details

## Technical Specification

Length	612 mm	672 mm	812 mm
Width	1140 mm	1140 mm	1290 mm
Height	970 mm	970 mm	970 mm
Transportheight	850 mm +/- 50 mm (optional 950 +/- 50 mm)	850 mm +/- 50 mm (optional 950 +/- 50 mm)	850 mm +/- 50 mm (optional 950 +/- 50 mm)
PCB- length	50 – 460 mm	50 – 520 mm	50 – 660 mm
PCB- width	50 – 460 mm	50 – 460 mm	50 – 610 mm
PCB- stackheight	340 mm	340 mm	340 mm

# Detail: Mechanic Structure

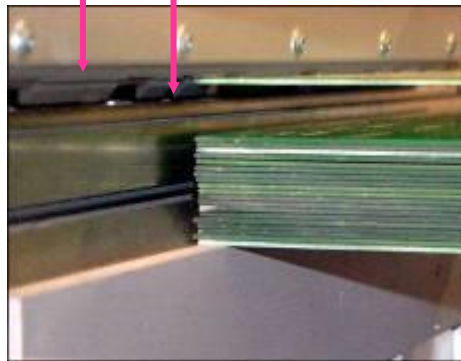


## Detail: Process

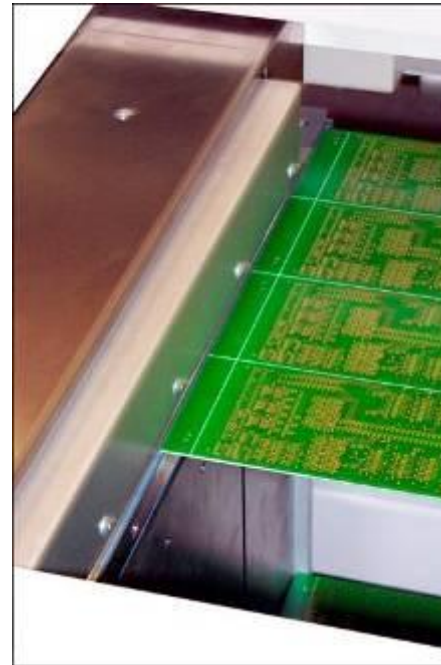


PCB stack placed on the stack table, ready to be processed

clamping head  
conveyor belt



PCB stack is moved up. Top PCB is clamped and the remaining stack moved down



Conveyor belts move in and PCB is released from the clamping to the conveyor belts.

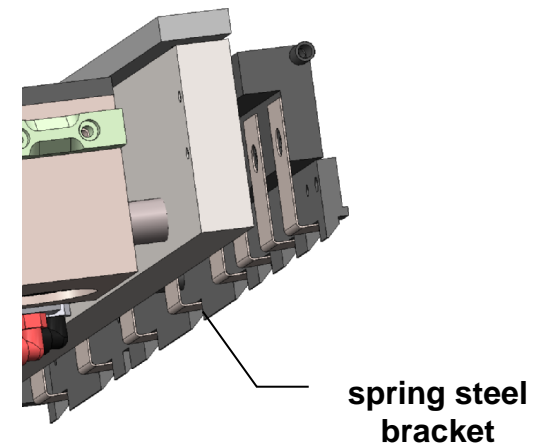
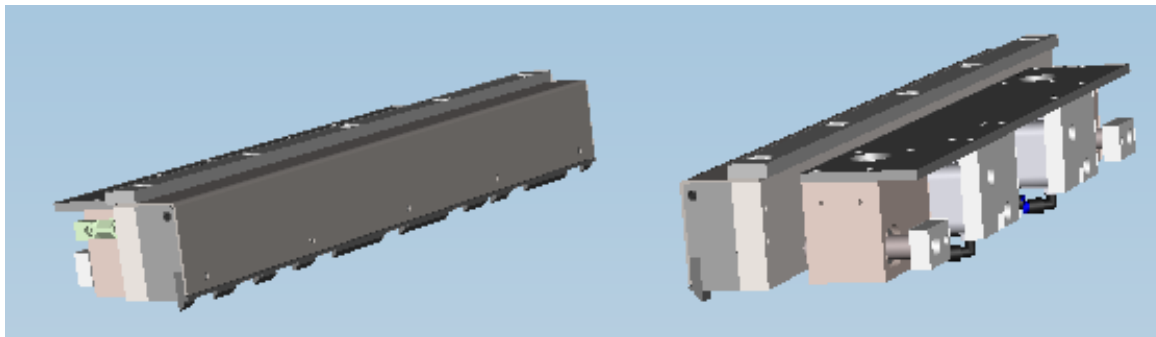


PCB is ready for handover to down-line machine

## LSB 03: separation variety “clamp head”

Used for standard PCB material

- › Separation of PCB's from 0,8mm to 4,5mm thickness
- › Processing by clamping from the side
- › Clamp force adjustable
- › PCB edge support 3mm

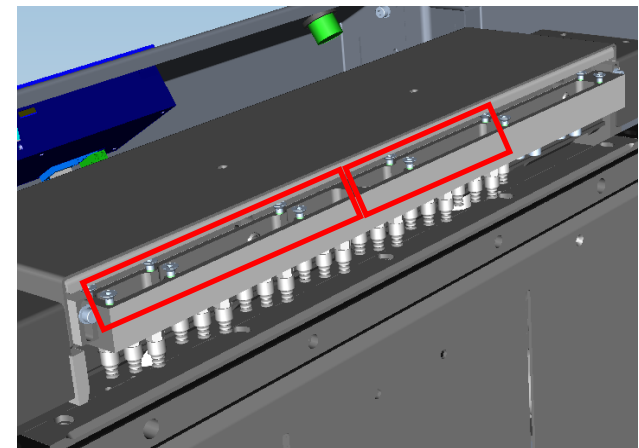


## Option: Separation variety “combi head 3”

Used for most variable product portfolio

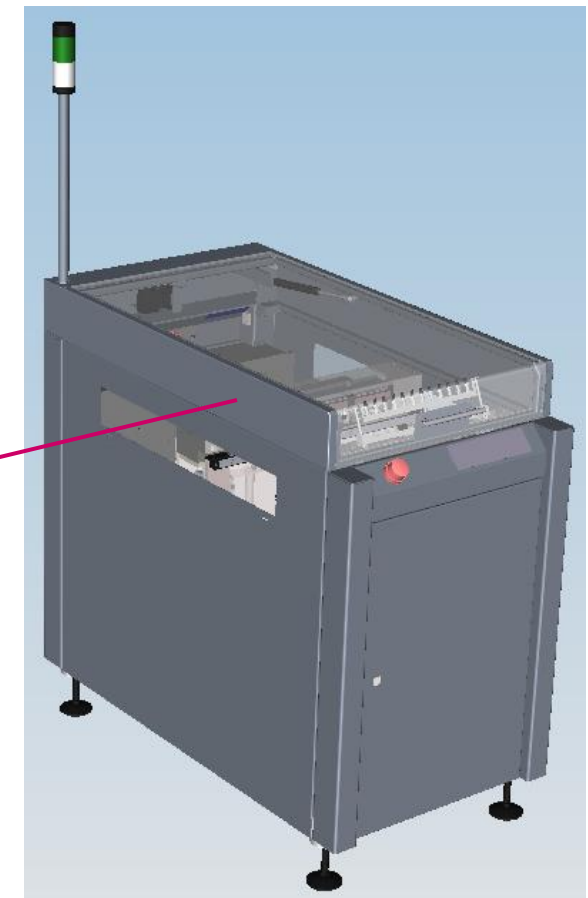
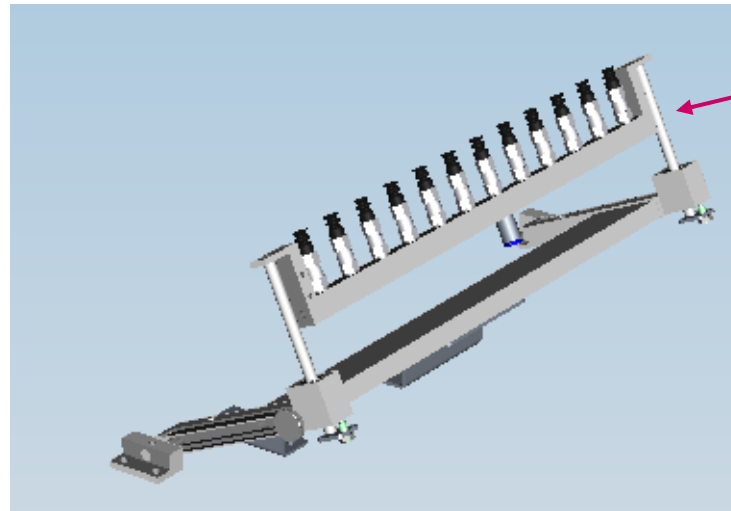
Especially for thin PCB's, for Panel-PCB with wholes or cutouts as well as grooved surfaces

- › Clamping unit and a 3-row and two-parted vacuum unit over complete length of the head
- › Separation optionally:
  - › by clamping
  - › by vacuum
  - › by clamping and vacuum together
- › Separation possible by a few sealed nozzles only
- › Vacuum separation also possible at a tilt stack position



## Option: „Additional vacuum suction rails“

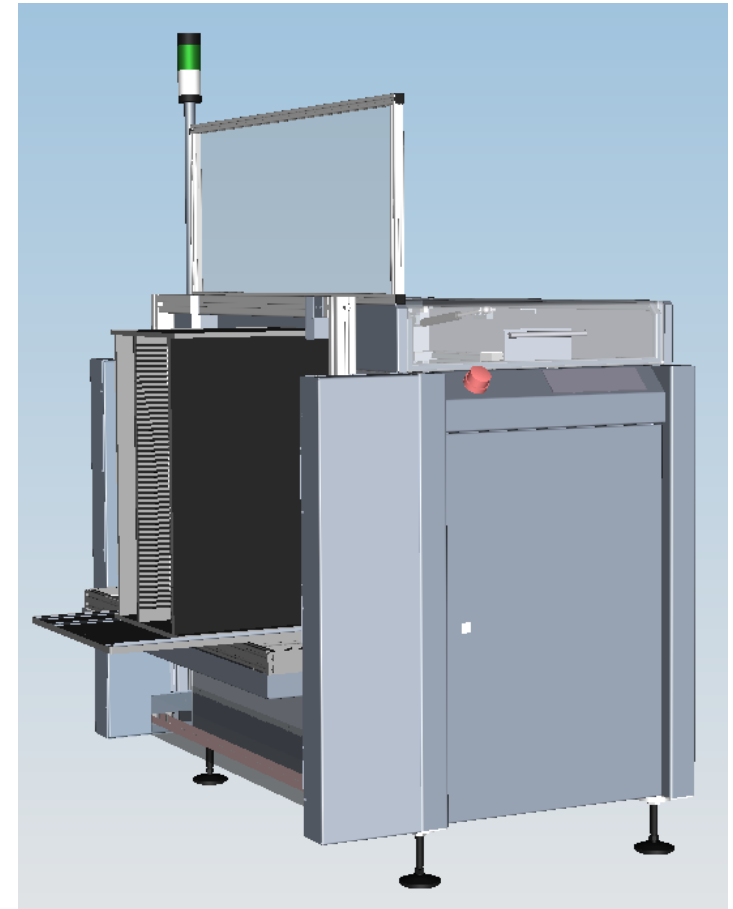
- › Additional hinged vacuum suction rail
- › especially for thin and flexible PCB's
- › Incl. higher safety cover





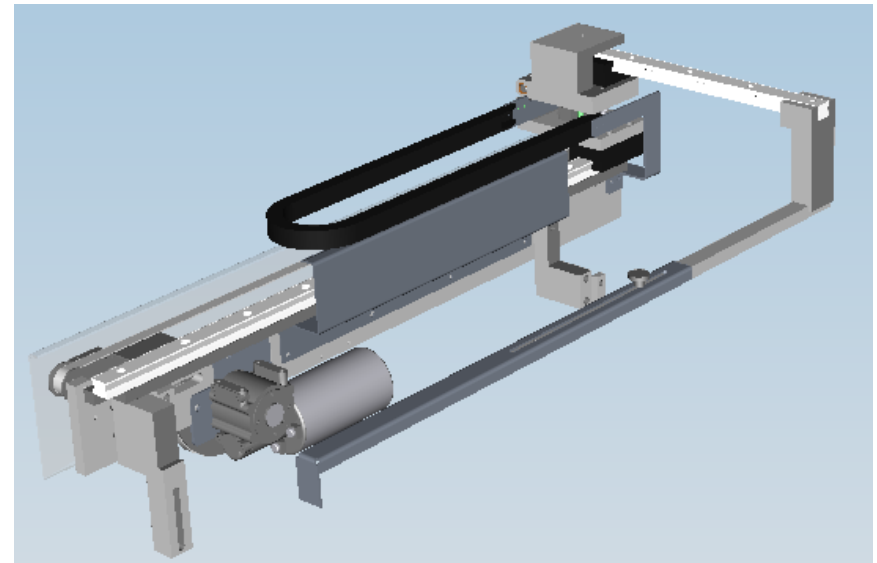
## Option: „magazine unloading lift“ (lift unit)

- › Lifting table for 1 magazine to take (populated) PCB's out of a magazine
- › The platform can be folded up when machine works in stack unloading modus.
- › Magazine platform can be fitted for different Magazine sizes
- › Max. Magazine size  
L=535mmxW=530mmxH=570mm
- › Magazine specific clamp mechanism with fixture on bottom and on top
- › Quick lock lever with recognition by sensor



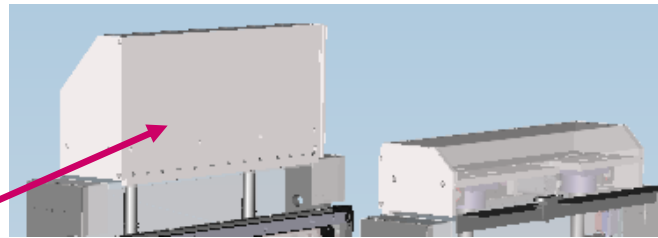
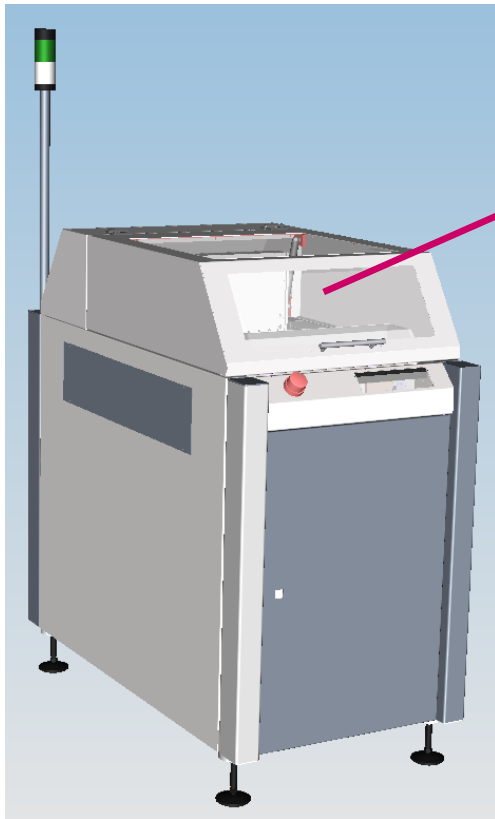
## Option: „Magazine unloading lift“ (Extractor mechanic)

- › Extractor mechanic on linear guides
- › Extractor way adjustable
- › Mechanic coupled on movable rail
- › Extractor with adjustable electronic torque limiter
- › Arm can be turned down if it's unused



# Option: „PCB Reload unit“

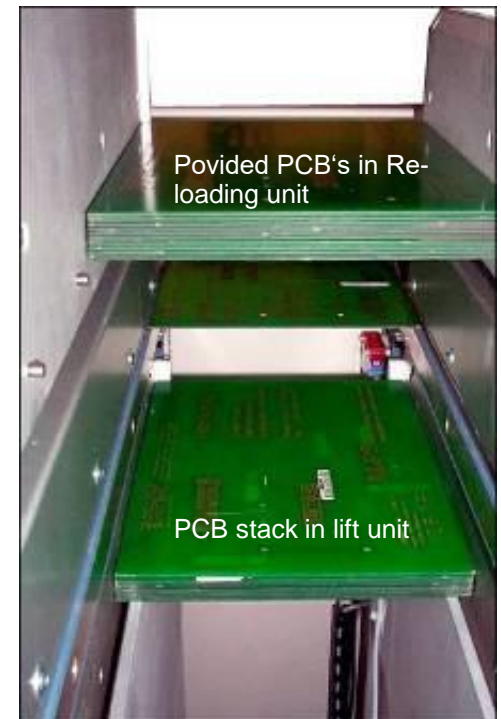
For more capacity



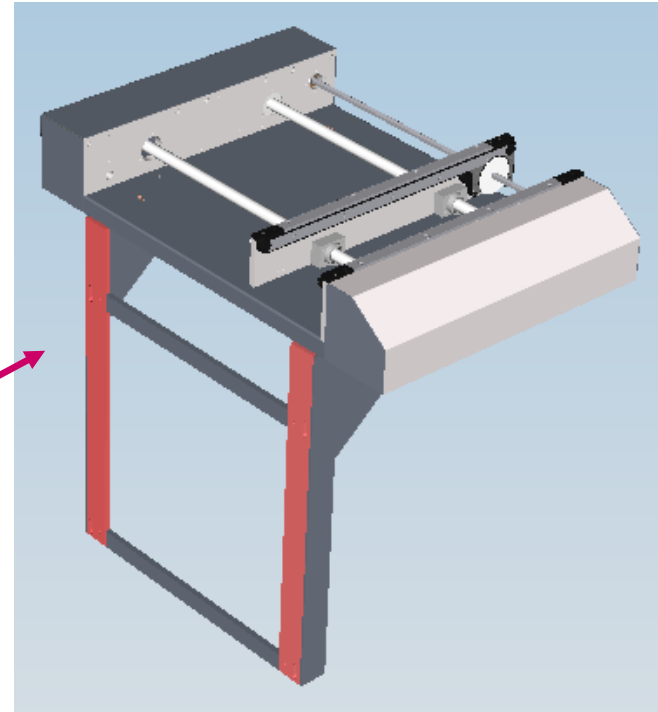
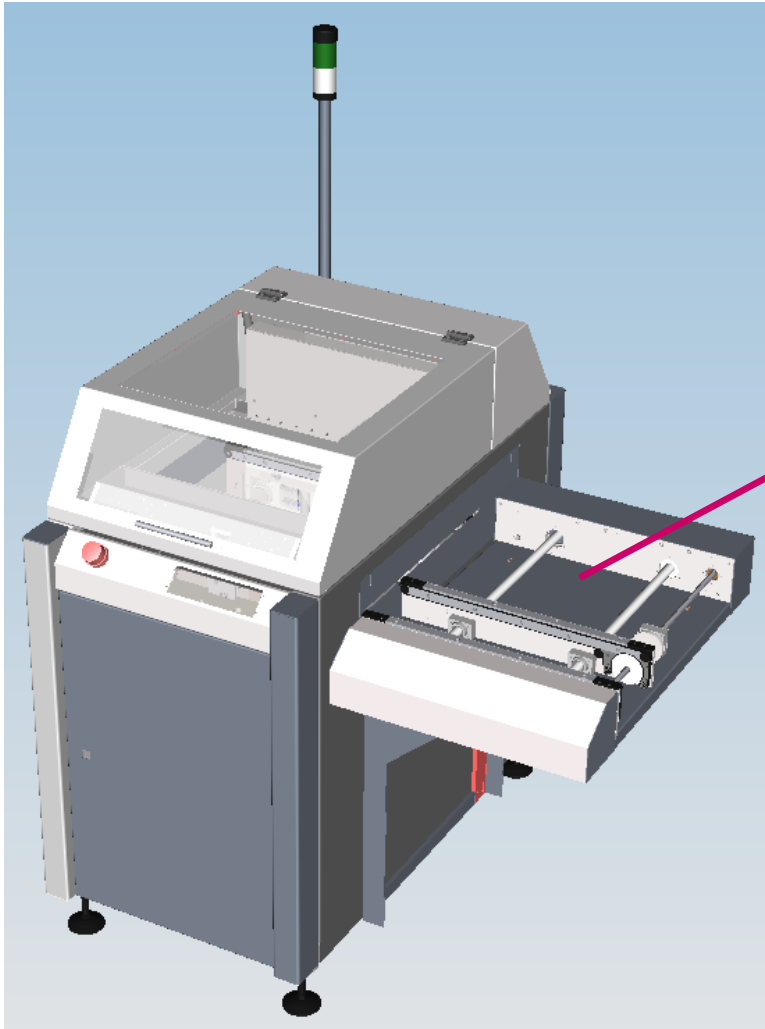
› Additional PCB stack in the reload unit which is picked up automatically in the machine for separation. To refill the reload unit the door has to be opened. No separation happens during the open door.

› Stack height: 2x 250mm

› not in combination with „magazine lift“



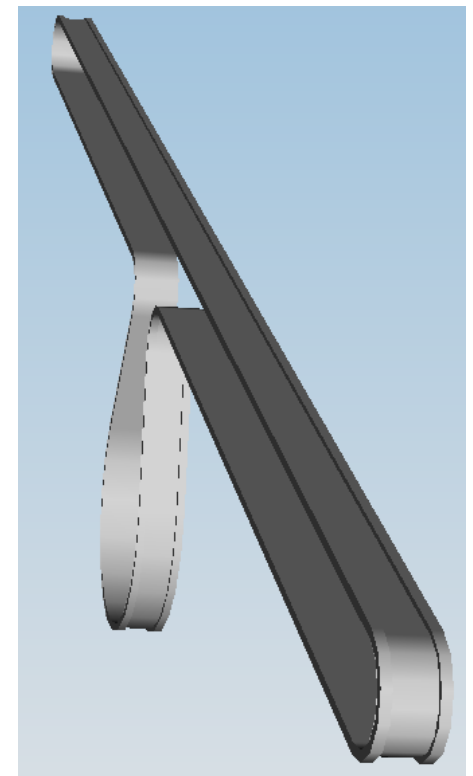
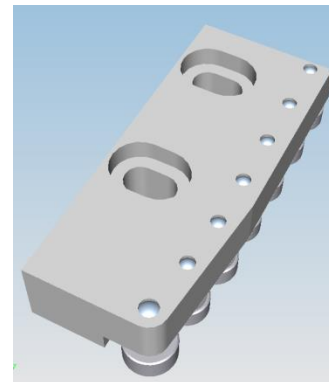
## Option: „Outlet conveyor“



- › Conveyor panel fixed on base frame
- › Controlled by main machine
- › Optionally with cover

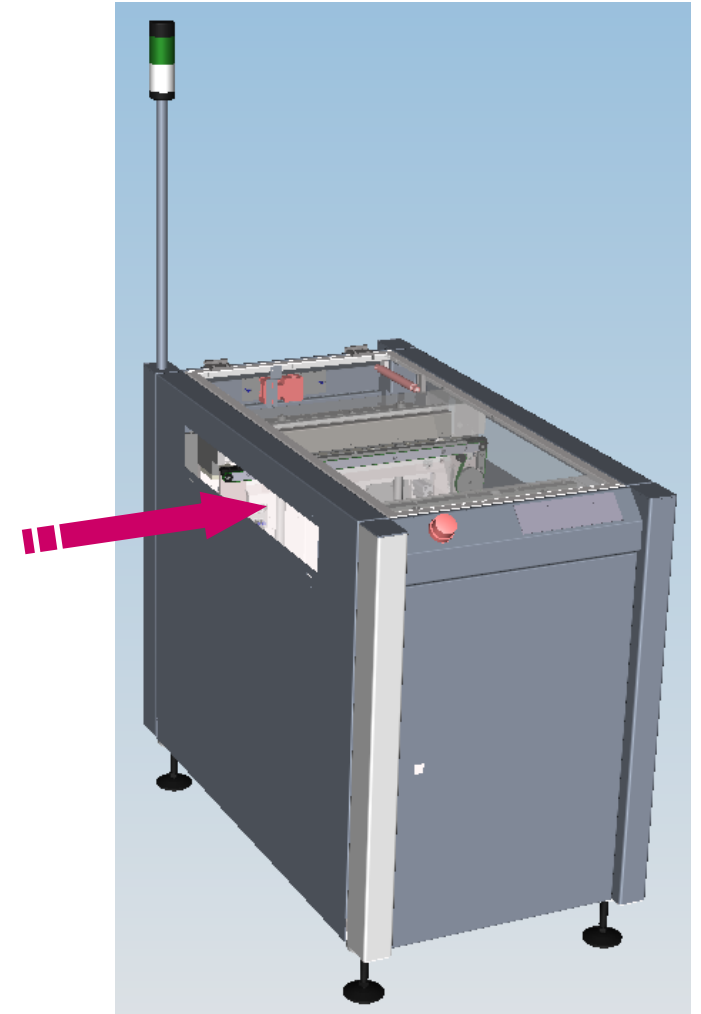
## Option: „Equipment for ceramics“

- › Used to transport PCB's <0,7mm thickness and ceramic substrates
- › U-shaped conveyor belts
- › Special inlet guides with rollers



## Option: “Pass through mode”

- › Additional interface for the inlet side to take over PCB's of an up-line machine e.g. magazine loader
- › Change-over switch for passage mode by the operator panel

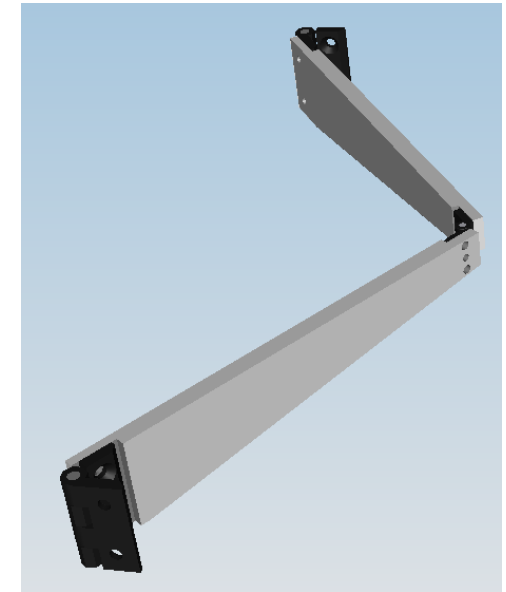
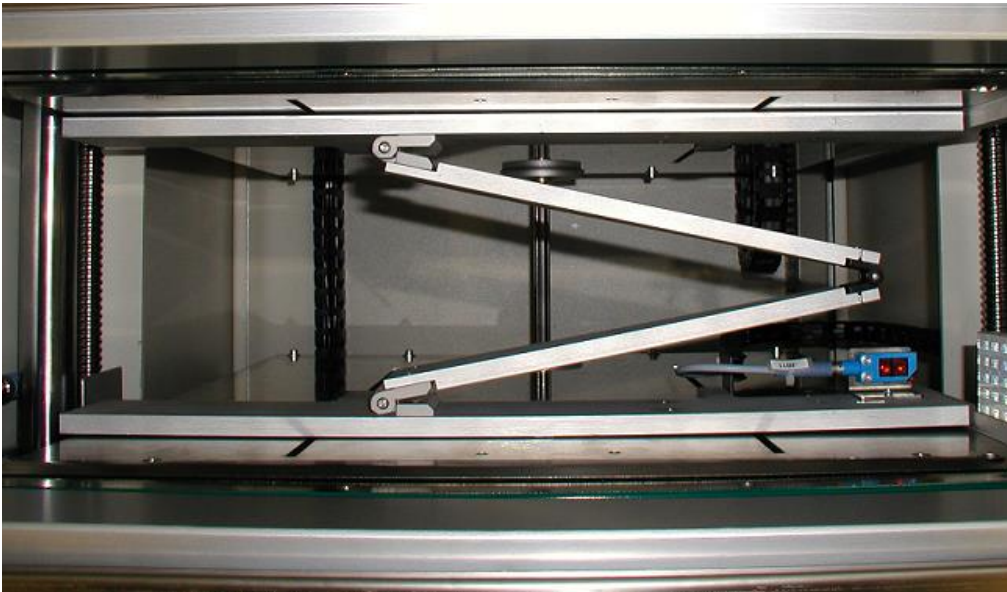


## Option: “Air blast pipe”

- › Fixed on the outlet side of the conveyor to blow with air-pressure on top of the PCB during downstream processing to the following machine.
- › Adjustable blow-off-rate by air regulator
- › Automatic activating during PCB handover
- › Controlled by the machine. Blast pipe is active only during handover to down-line machine otherwise it is turned off.

## Option: “Middle support for LSB 03”

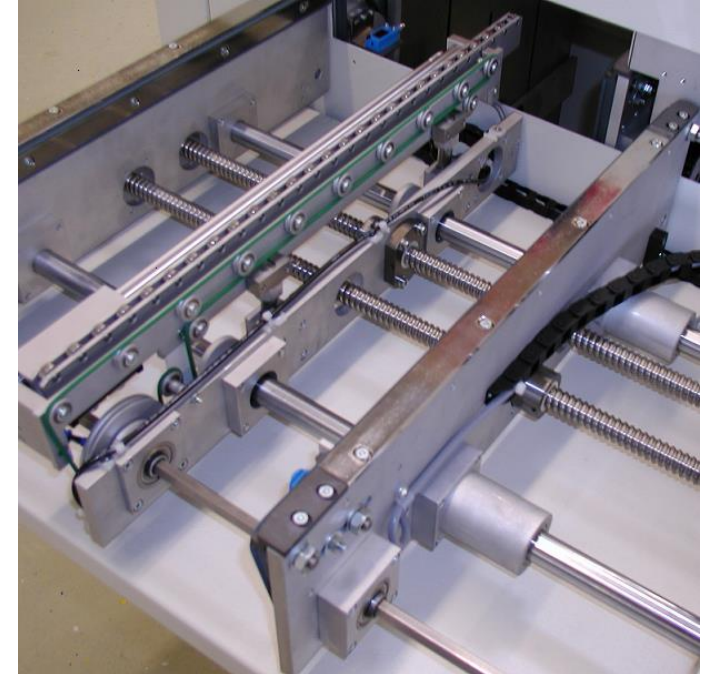
- › Middle support for the PCB stack for processing very flexible PCB's
- › shear mechanics mounted in the stack tunnel of the LSB 03.





## Option: Middle support LSB03 outlet conveyor

- › Middle support of the PCB by using driven round shaped belts in the outlet conveyor
- › Height adjustable 20mm
- › Additional roller belt which moves pneumatically in the LSB to support the PCB and extract the PCB together with the transport belt to the outlet conveyor
- › PCB support in „load -mode“ and in „pass through – mode“



## Option: Automatic width adjustment

- › Insert of the transport width as a numerical value in the control panel
- › The movable rail will be adjusted automatically by a stepper motor after starting the machine
- › Value can be deposited in a „product number“



## LSE 03 Restacker

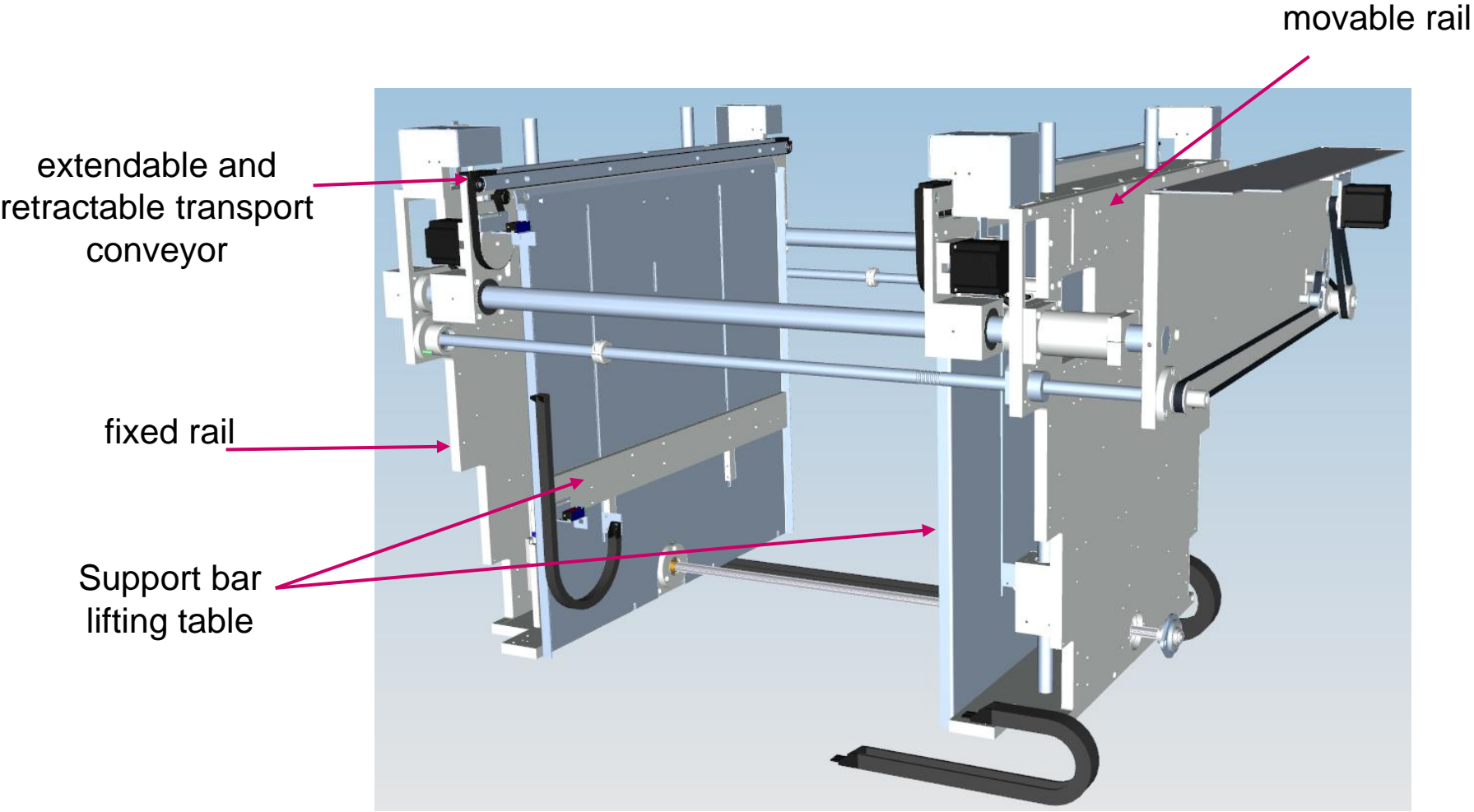
- › The bareboard restacker LSE 03 buffers incoming unpopulated PCB`s to a stack.  
This unit is mainly used behind laser marking machines
- › Stacking process from the top



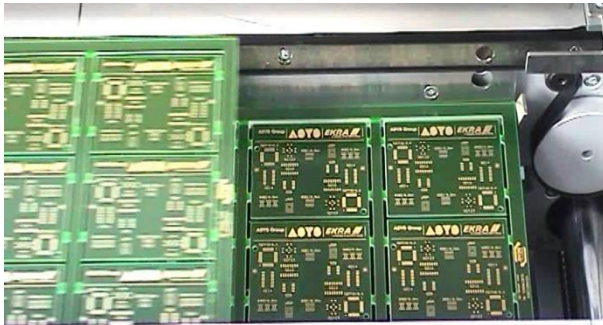
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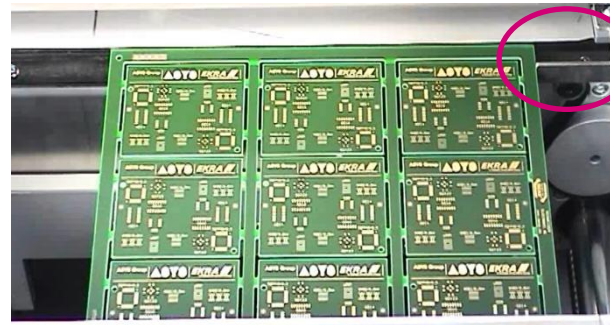
# Details: Mechanical Construction



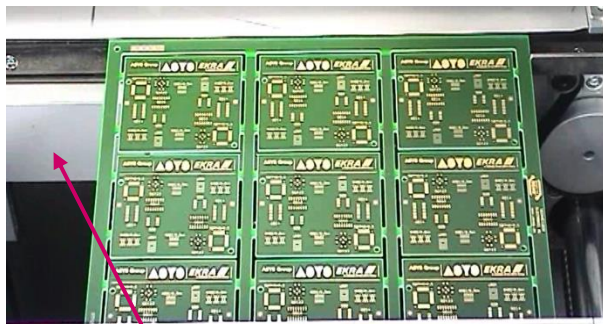
## Details: Workflow



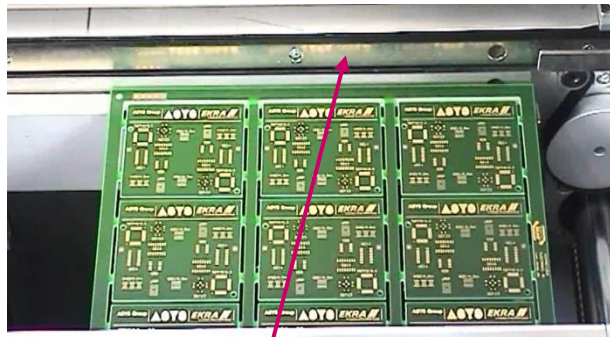
1. PCB is taken from previous machine (n-1)



2. The PCB is stopped and positioned



3. The **support bar** of the lift table moves up to the pickup position.



4. The **conveyor rails** are retracted and the PCB is deposited on the support bar

# Operation

- › Operator panel with graphical color display
- › Changing Parameters and setup new recipes during automatic mode
- › Password protected user level (configurable)
- › Product memory function



# Automatic width adjustment (option)

- › Setting by absolute value input at the operator panel
- › Width offset adjustable (standard is 0,6 – 0,8 mm)
- › Getting the width from n-1 (available with the additional option „IC-Net“)



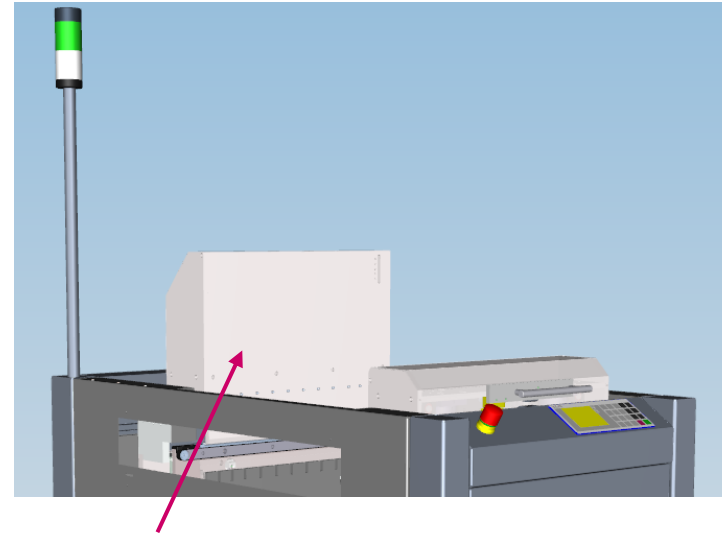
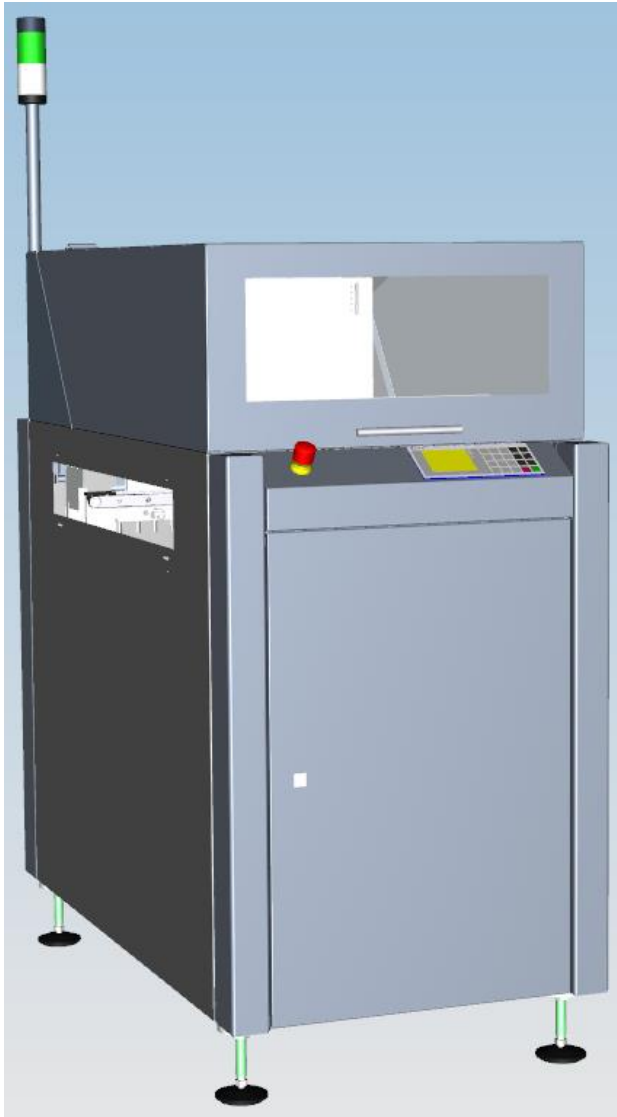


## Breiteneinstellung automatisch (Option)

- › Setting by absolute value input at the operator panel
- › Width offset adjustable (standard is 0,6 – 0,8 mm)
- › Getting the width from n-1 (available with the additional option „IC-Net“)



## LSE 03 Technical details

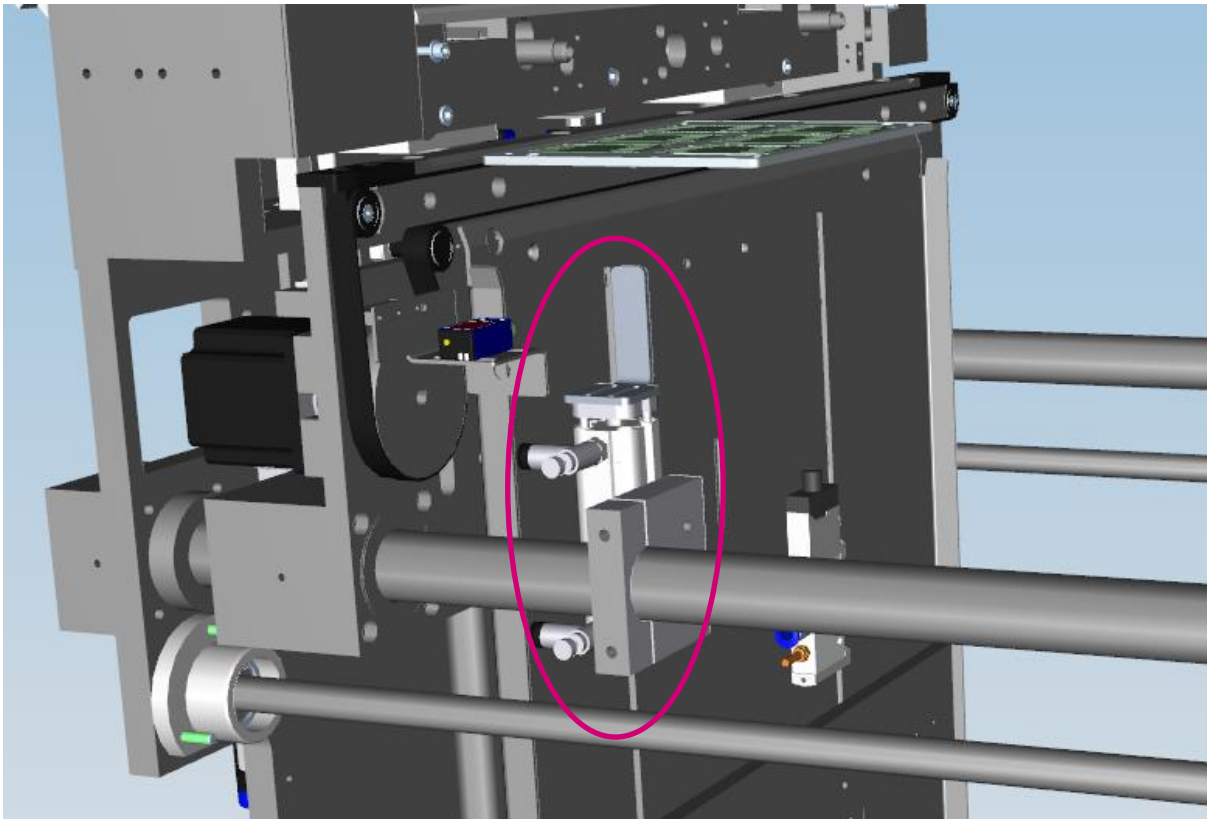


### PCB Re-loading unit

The already processed stack is automatically deposited on the reloading unit on top. Incoming PCB's are stacked to the bottom again.

- › Capacity extension 2x 250mm
- › Not available in union with the option “magazine lift”

## Option: Pass through mode

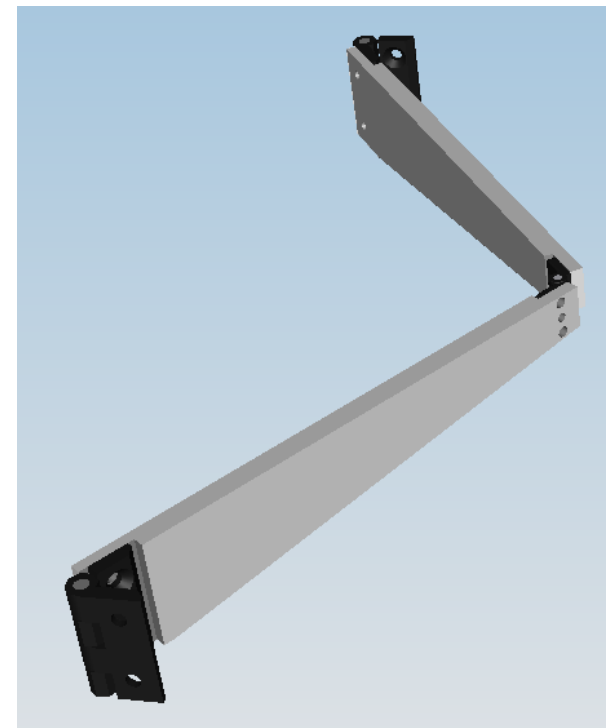


With this option, the machine can be used in a pass-through mode. The machine is equipped with a downstream interface to handover boards to a magazine loader

- › change-over switch for bypass mode by the operator panel
- › incl. stopper unit on the outlet side

## Option: Middle support with a Scissor mechanism

- › Middle support of the PCB stack for processing very flexible PCBs
- › Scissor mechanism mounted in the receiving shaft of the machine

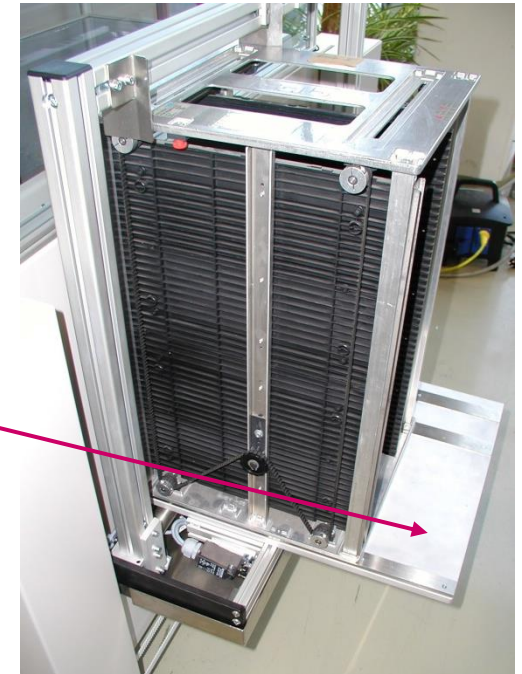


## Option: Loading lift for a magazine



Loading lift for a magazine fixed at the **rear end** of the station. PCB's are taken over from the conveyor and pushed into a magazine.

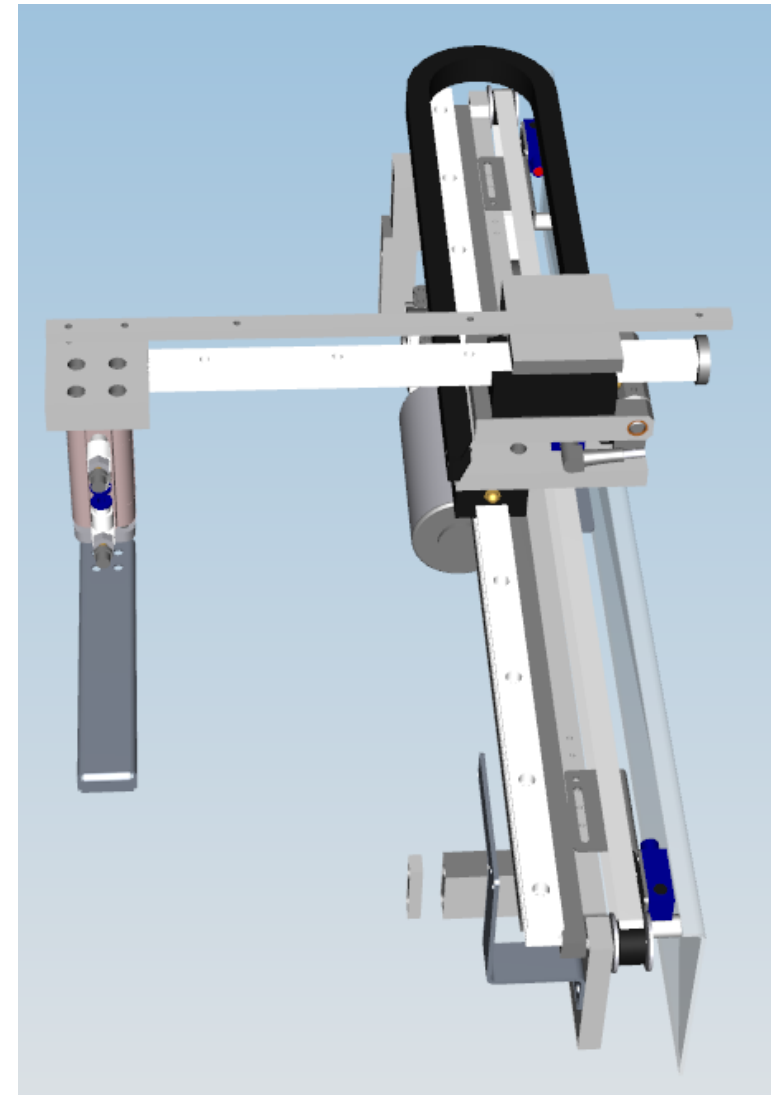
The magazine is fixed on a **platform**, which can be folded up, when the station works in the stacking mode.



- › Lifting table for only 1 magazine
- › Magazin platform is adapted to the magazine size (max. magazine size l=535 mm x w=530 mm x h=570 mm)
- › Magazine specific clamping device with fixture at the top and bottom
- › Magazine clamping lever with sensor recognition

## Option: Loading lift for a magazine (Push- in mechanism)

- › Pusher mechanism on linear guide system
- › Adjustable pushing distance
- › Mechanics mounted on movable rail side
- › Pusher with adjustable electronic force limiter
- › The pusher can be folded up if not in use



## LSE 03 integrated into a line

