ASYS GROUP

Automation Systems

VEGO LLB 01 – PCB Logistic Loader

VEGO Dynamic LLB 01

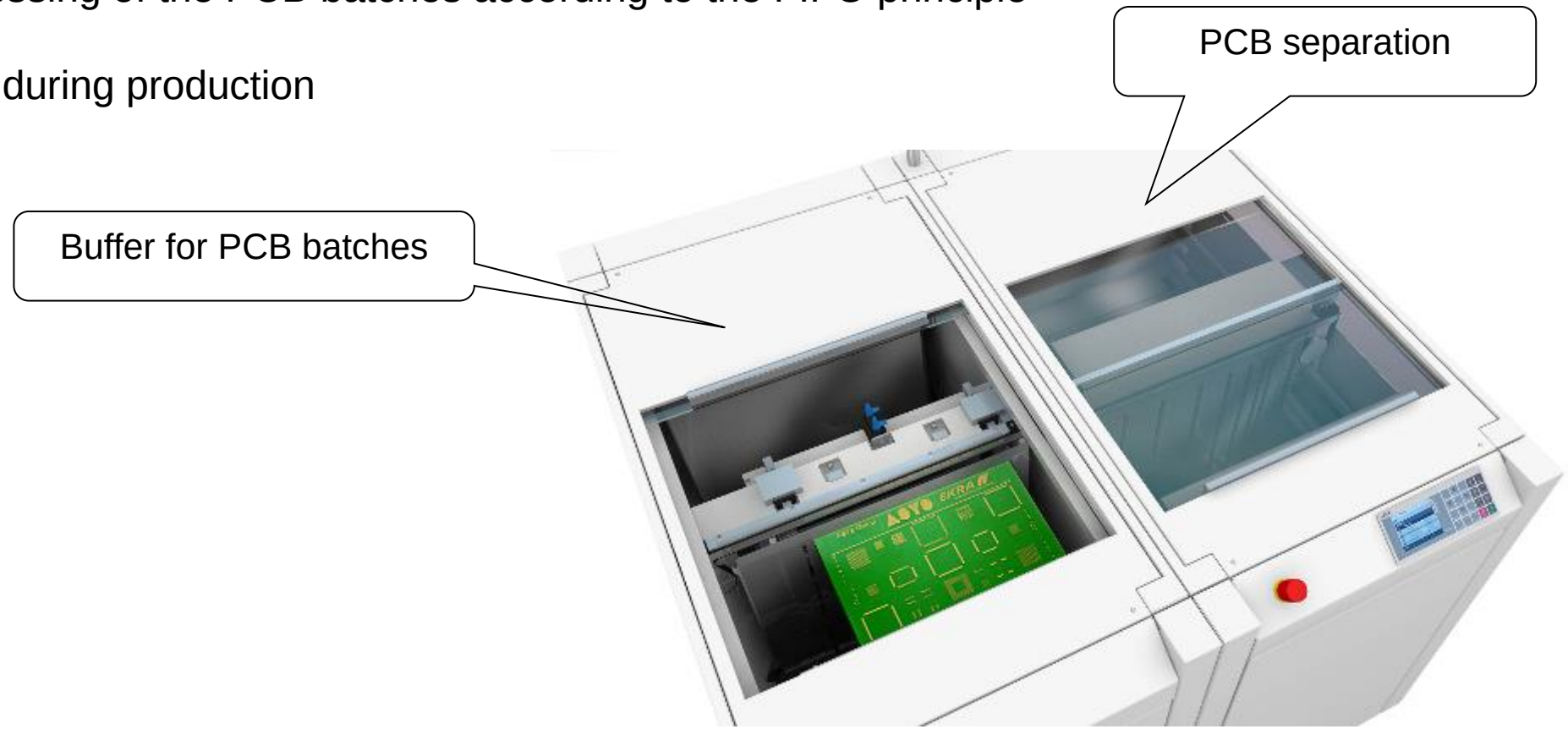
› Stack loader with FIFO buffer for PCB batches

VEGO Dynamic LLB 01

› Separation of bare boards

› Processing of the PCB batches according to the FIFO principle

› Refill during production

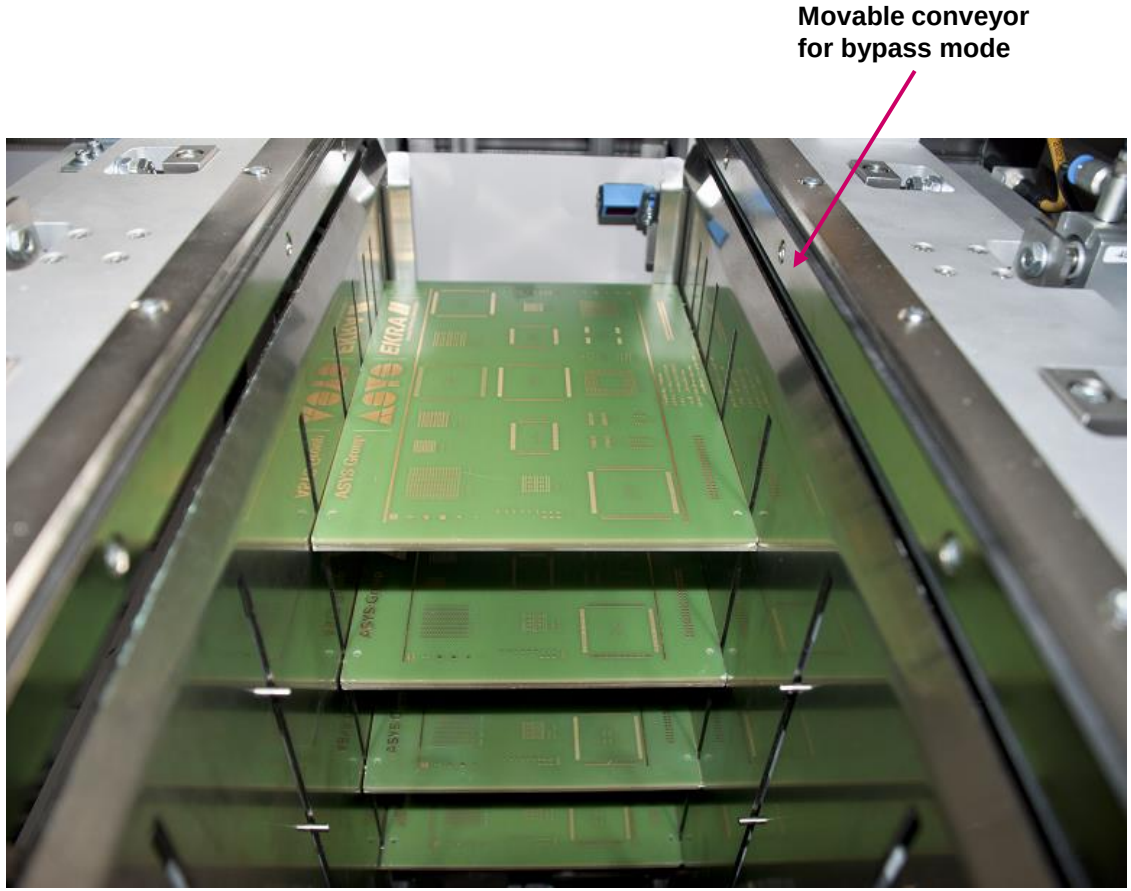


Buffer

› Loading of the batches from top

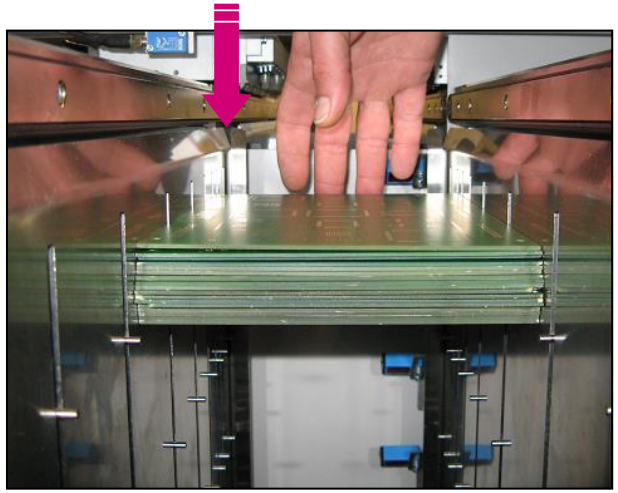
› Capacity 5 batches at 60 mm height

› Stainless steel support pins

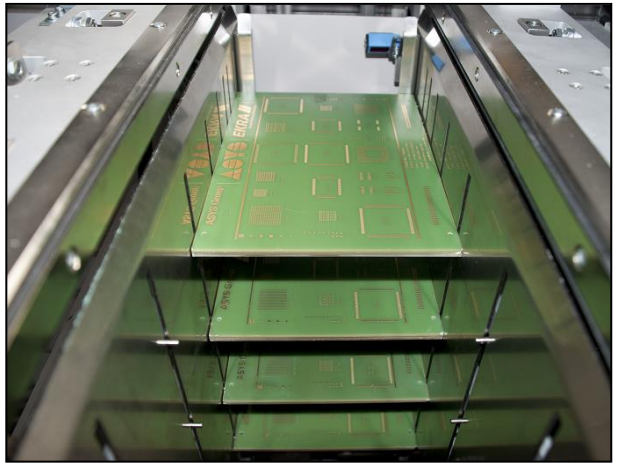


Process: buffer

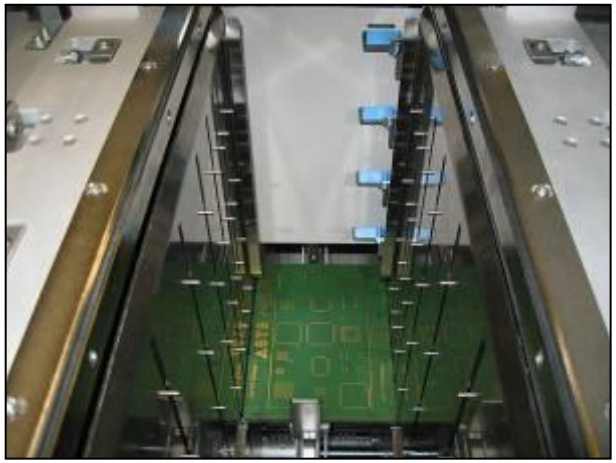
Insert batches



The PCB stack is inserted into the buffer from above and automatically moved down one slot.



The buffer is full or the process is stopped by the operator.

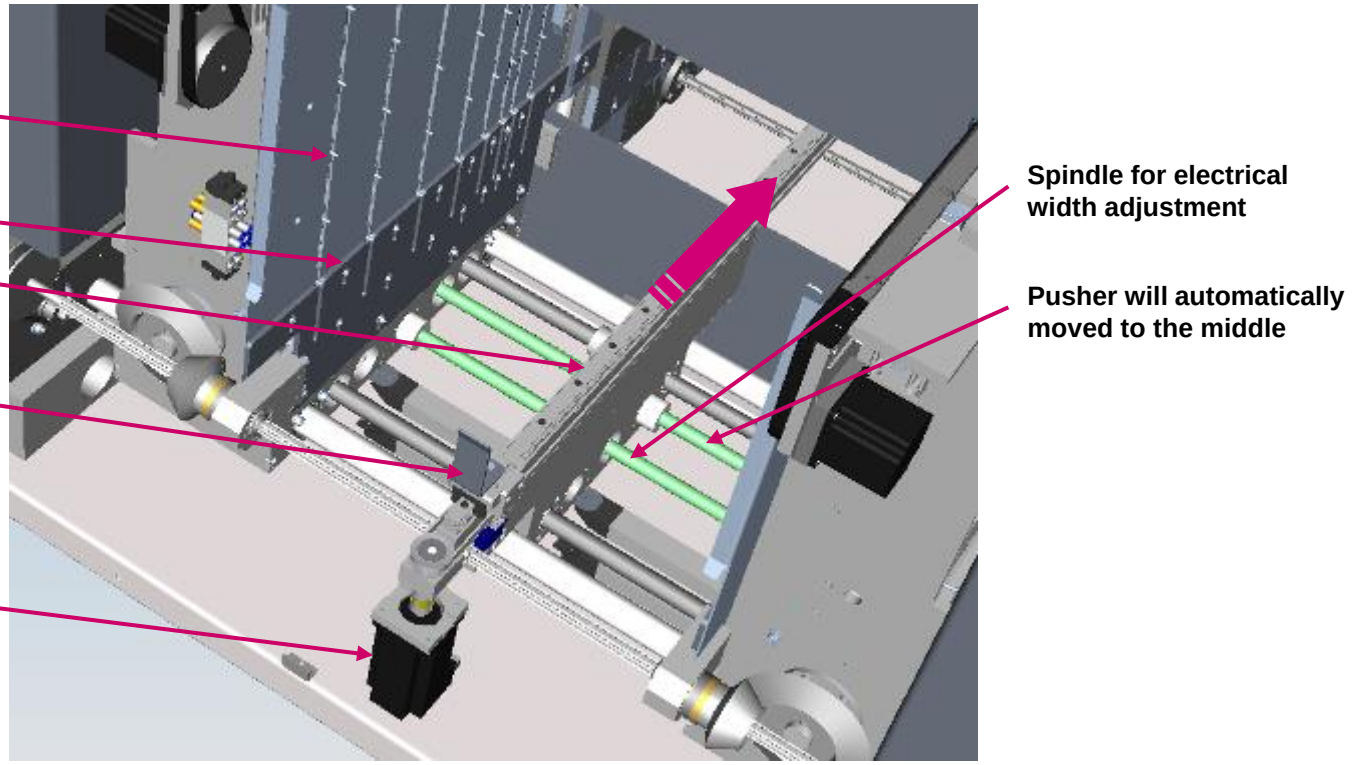


The lowest batch is handed over to the separating station.

Detail: buffer

› Pusher mechanic with servo motor

› The lowest batch will be pushed into the separation unit



Separation station

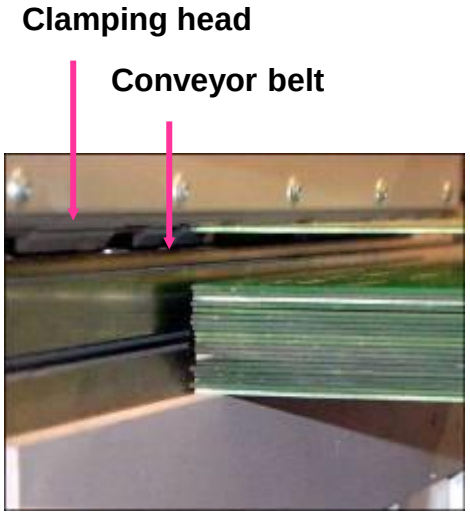
› Processing the stack from the top

› Capacity two batches

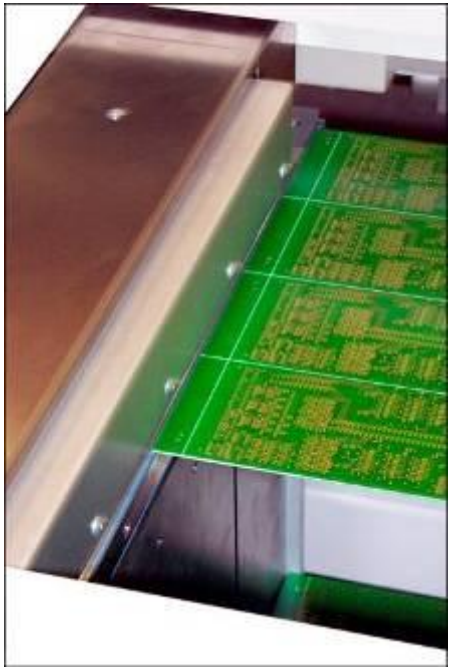
› Different variations for separation of the PCBs available clamping – vacuum – combined

Process: separation

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



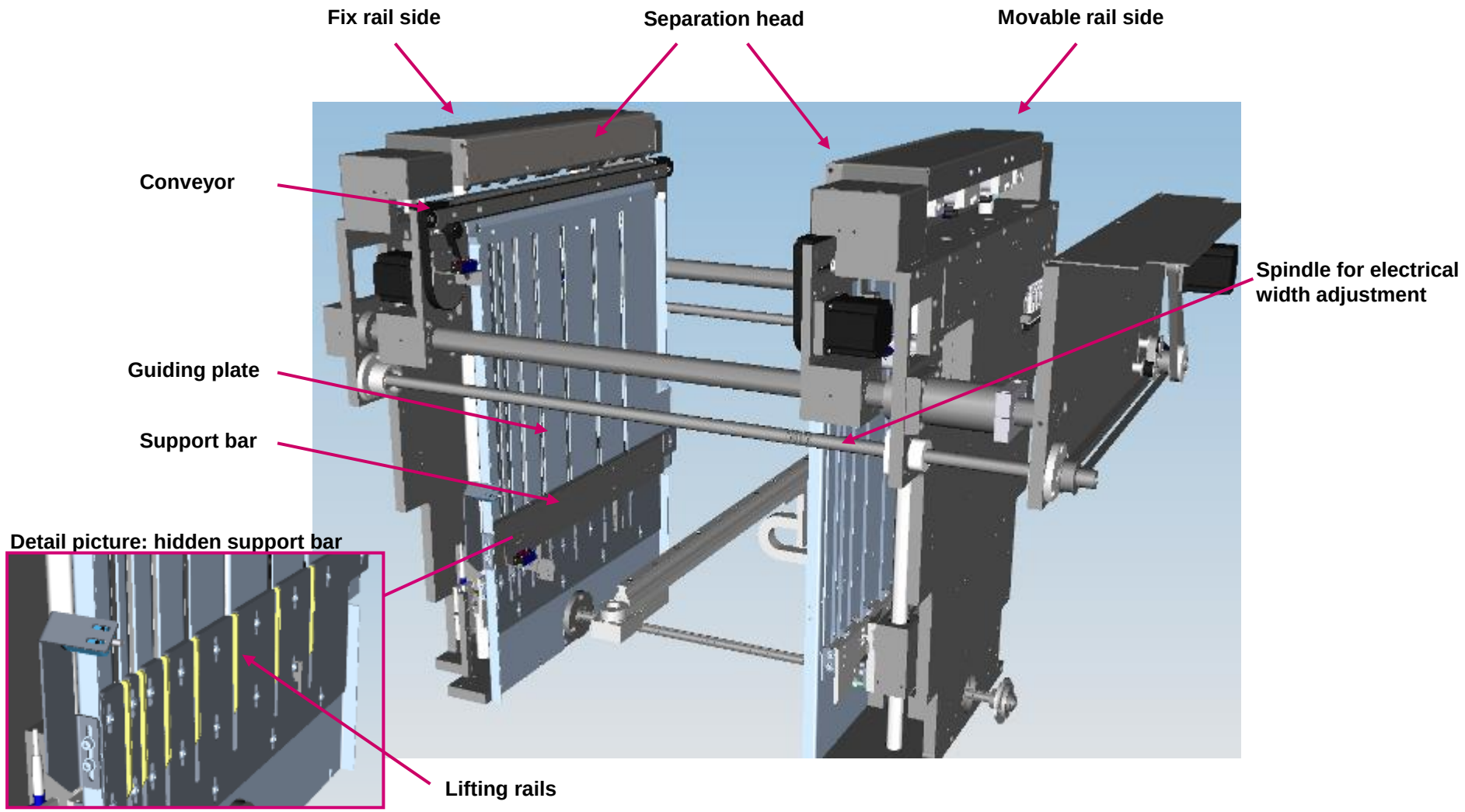
PCB stack is moved up. Top PCB is clamped and the remaining stack moved down.



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

PCB is ready for handover to down-line machine

Detail: separation station



Separation variety “clamp head”

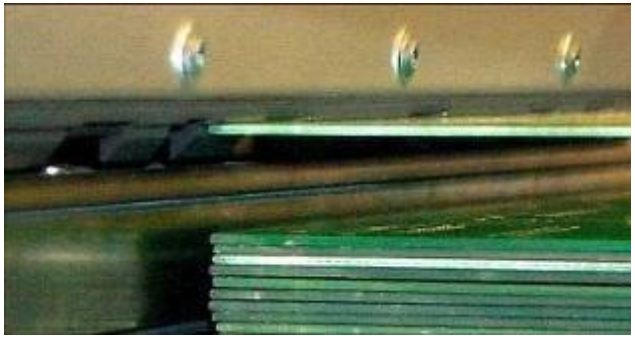
Used for standard PCB material

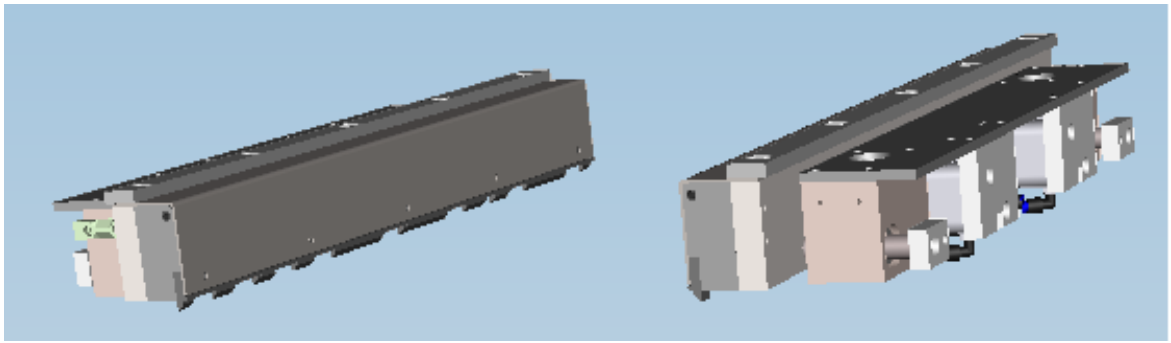
› Separation of PCBs from 0,8 mm to 4,5 mm thickness

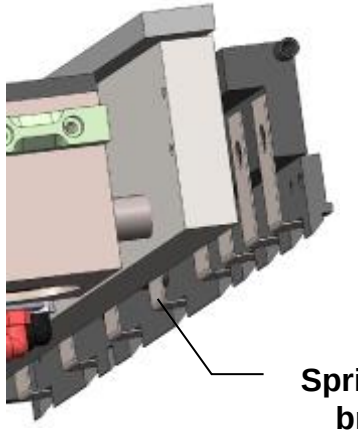
› Processing by clamping from the side

› Clamp force adjustable

› PCB edge support 3 mm







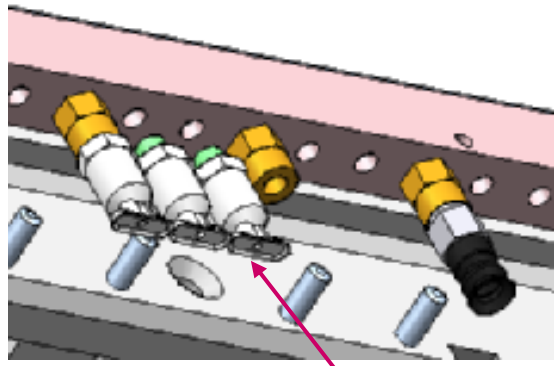
Spring steel bracket

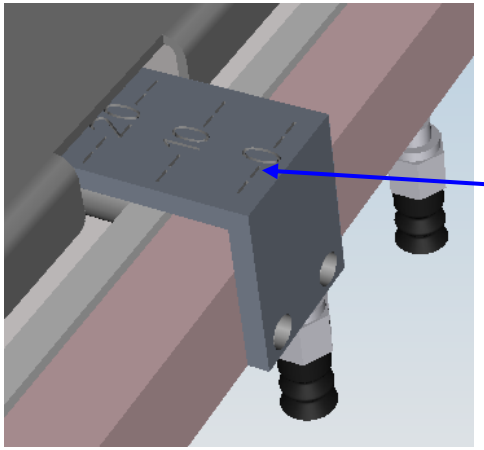
Separation variety “vacuum head”

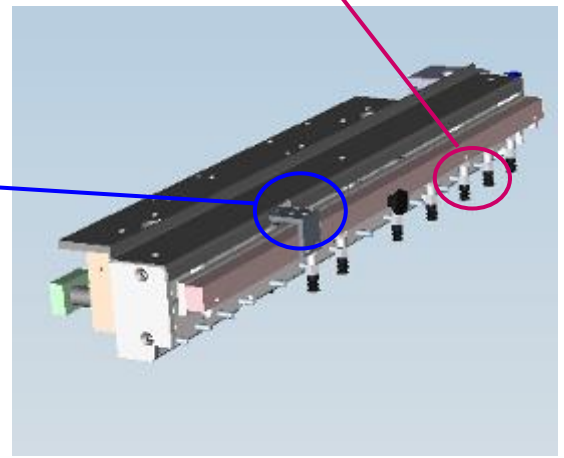
Used for separation of thin and flexible PCBs

- PCB is hold by suction cups from the top
- Adjustable suction power
- Lateral adjusting of the vacuum bar
- Different nozzle types available

Variety flat cups instead of round cups







Option: Separation variety “combi head 3”

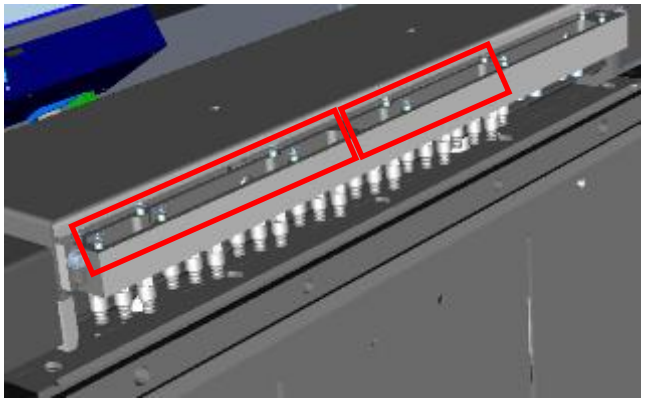
Used for most variable product portfolio. Especially for thin PCBs, for Panel-PCBs with wholes or cutouts as well as grooved surfaces

› Clamping unit and a 3-row and two-parted vacuum unit over the 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



VEGO Dynamic LLE 01

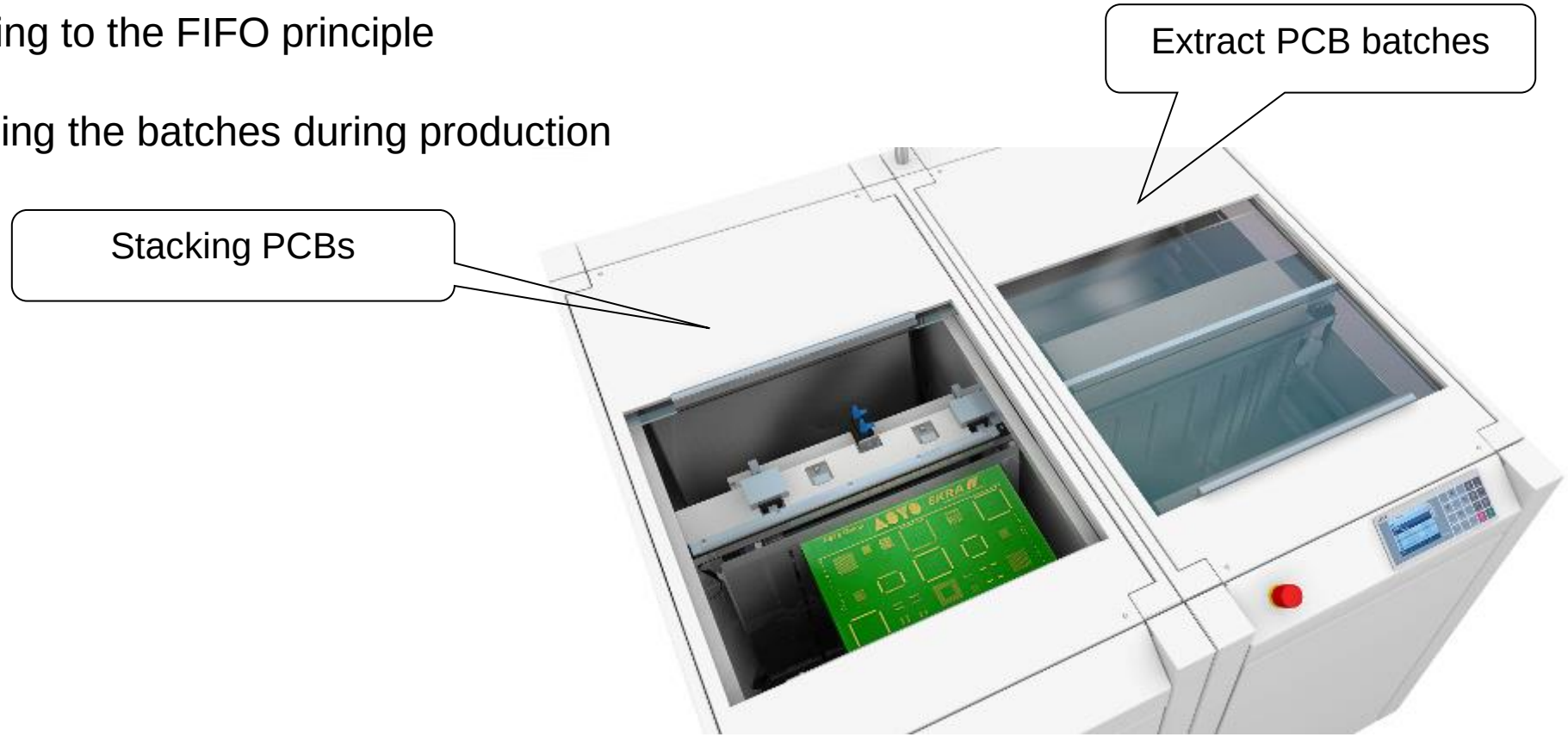
› Stack unloader with FIFO buffer for PCB batches

VEGO Dynamic LLE 01

› Stacking of bare boards (e.g. after marking process)

› PCBs will be stacked batch-wise and buffered according to the FIFO principle

› Unloading the batches during production



Stacking station

› Stacking from the top

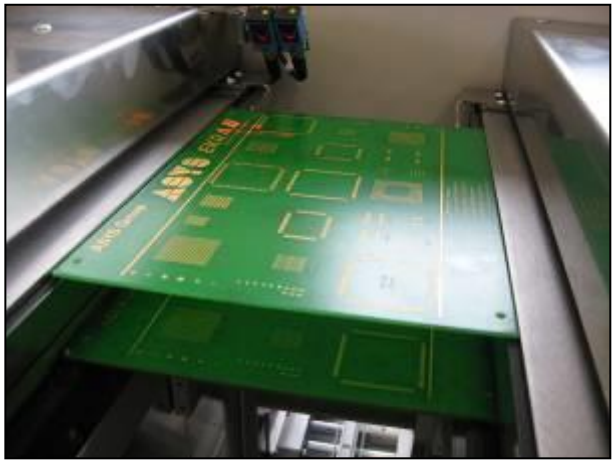
› Capacity one batch at 60 mm height

› Stacking by moving the conveyor rails apart

› Adjustable number of PCBs each batch

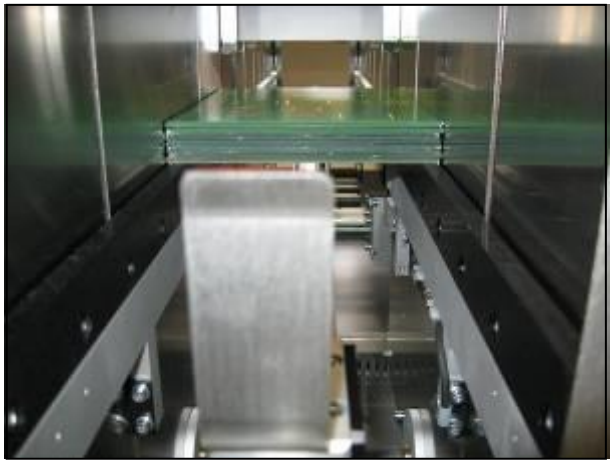
› Optionally: Signal „batch end“ from up-line machine

Process: stacking



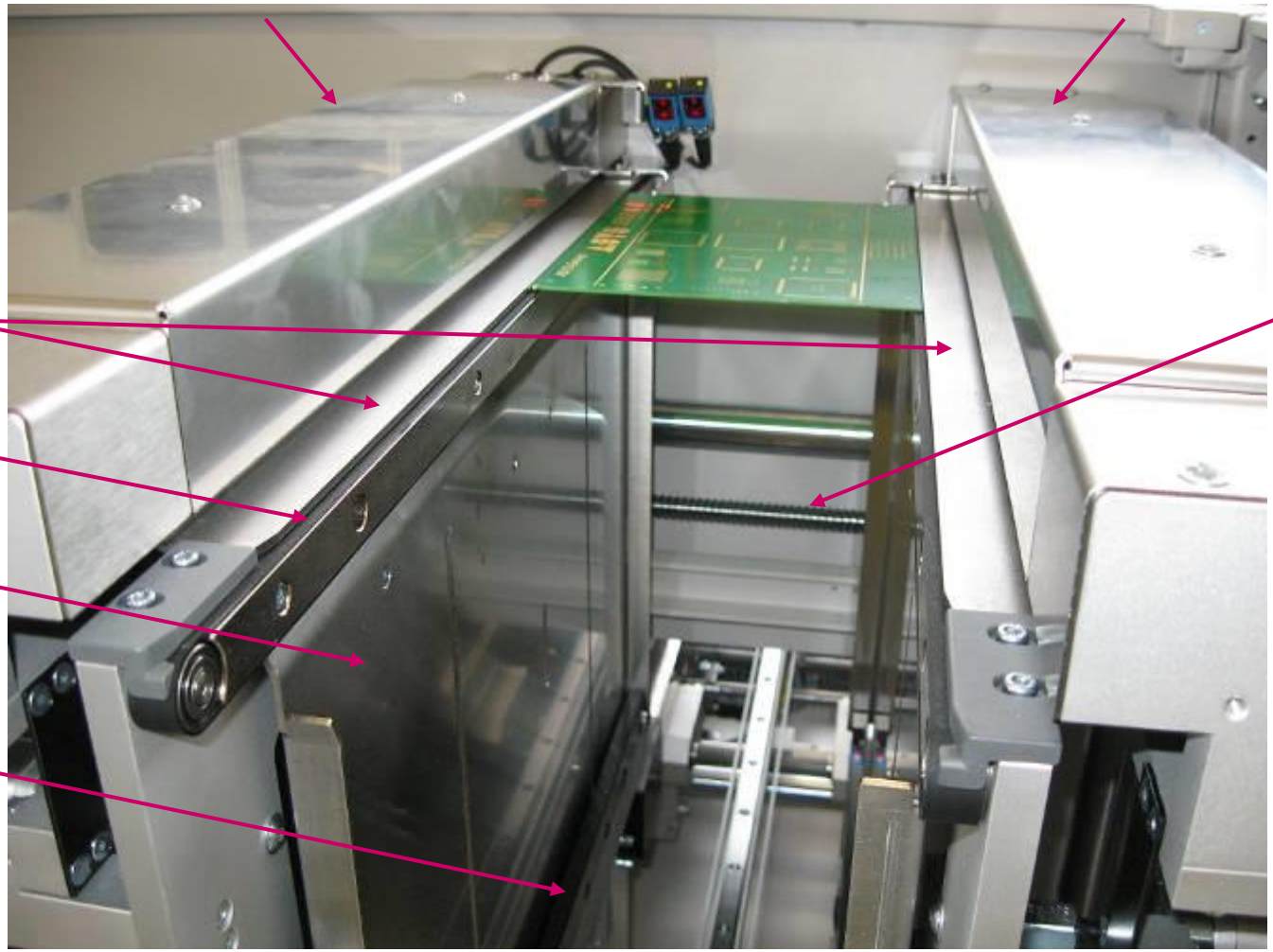
The PCB is taken over from the upstream machine onto a conveyor and positioned against a mechanical limit stop.

Subsequently, the conveyors rails move outward and the PCB falls down onto the stack.



When the stack height is reached, the stack is moved down and handed over to the buffer station.

Detail: stacking station



Puffer

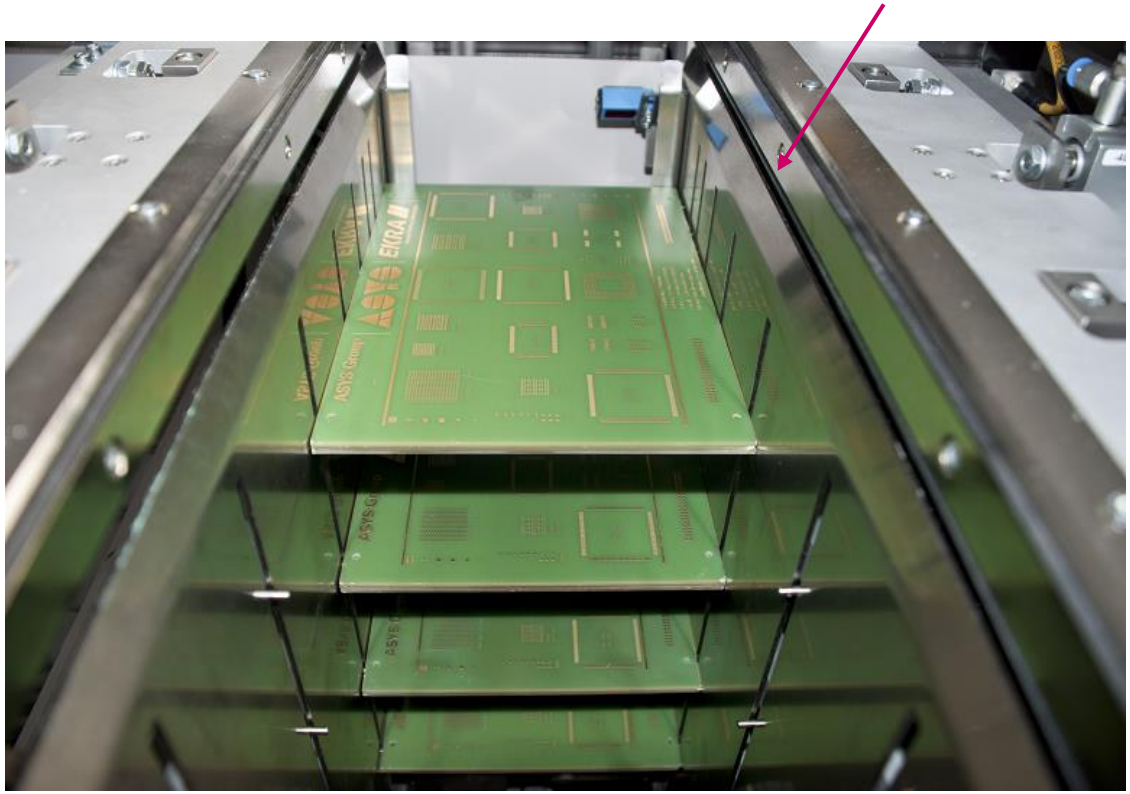
› Rotary chain mechanism (paternoster)

› Extraction of the batches from the top

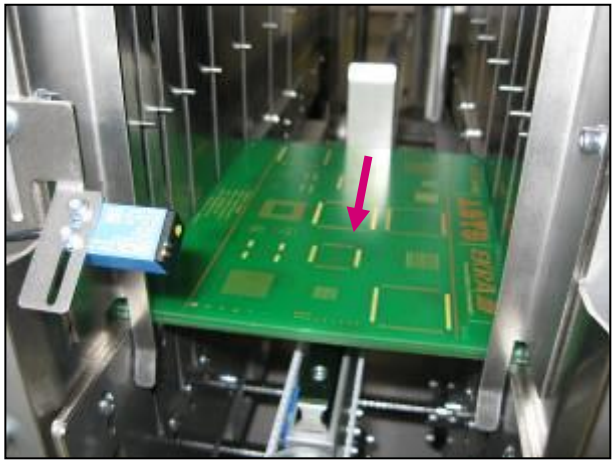
› Capacity five batches at 60 mm height

› Stainless steel support pins

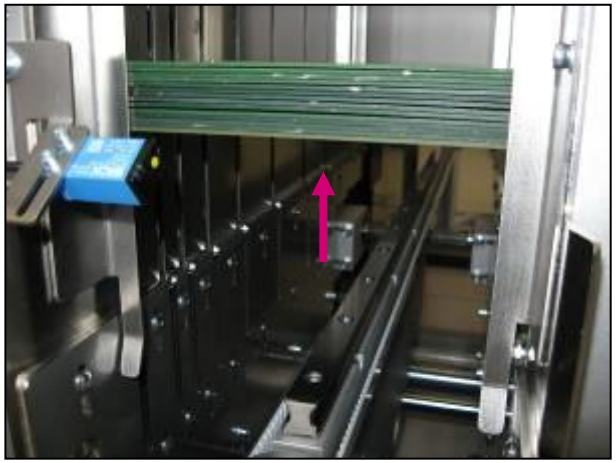
Movable conveyor rail for by-pass mode (optionally).



Process: buffer

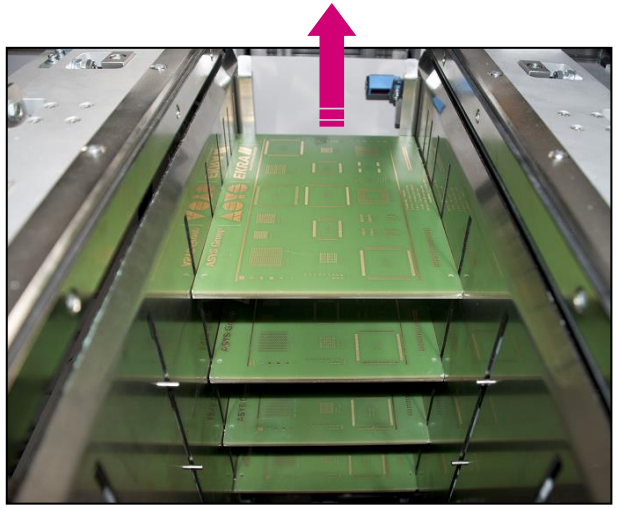


A pusher moves the PCB batch from the separating station into the buffer station.



The batch is lifted up and the pusher moves back to the start position.

Extract batch



The PCB batches are then put into position for removal.

Detail: buffer