ASYS GROUP

VEGO Dynamic AES03 & AMS03 Speed



AES03 Speed - Automatic Line- Loader for magazines

- Loading station for 3 PCB - magazines
- Fixed magazine table (optionally with magazine admission for roboter handling)
- Magazine loading by extractor mechanism, mounted on conveyor unit
- Shuttle function and lifting mechanism for synchronized vertical and horizontal movements



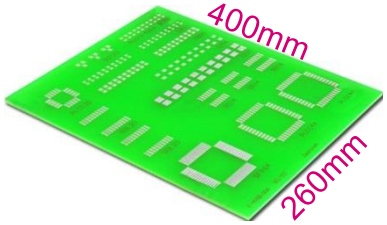
AES03 Speed - Automatic Line- Loader for magazines

- Lifting table with quick clamping system for the magazines, with vertical fixation
- Average cycle time per PCB 13,5 sec. (9 – 15)
- Magazine exchange during run-mode allows a non-stop production
- Excellent accessibility of the magazines
- Smallest footprint



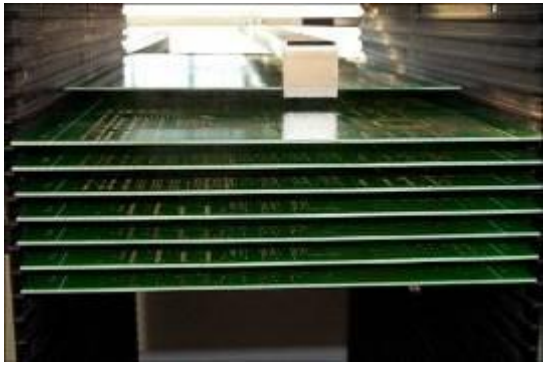
Technical Specification

Length / mm	910
Width / mm	2000
Height / mm	1350
PCB- length / mm	70 – 400
PCB- width / mm	50 – 260
Magazine format L x W x H / mm	400 x 320 x 568
Number of magazines	3



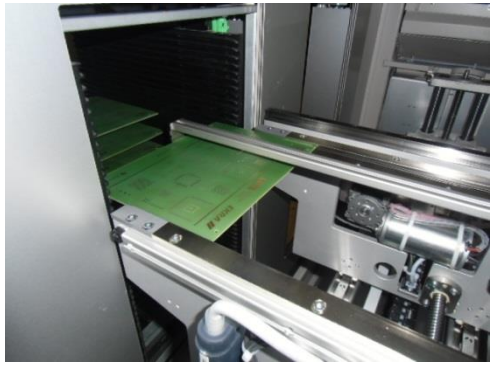


Work steps



Step 1

Extractor moves into the magazine, shuttle- and lifting axis moves upwards, puller takes PCB out of the magazine



Step 2

PCB is pulled on the conveyor and transported to the conveyor end

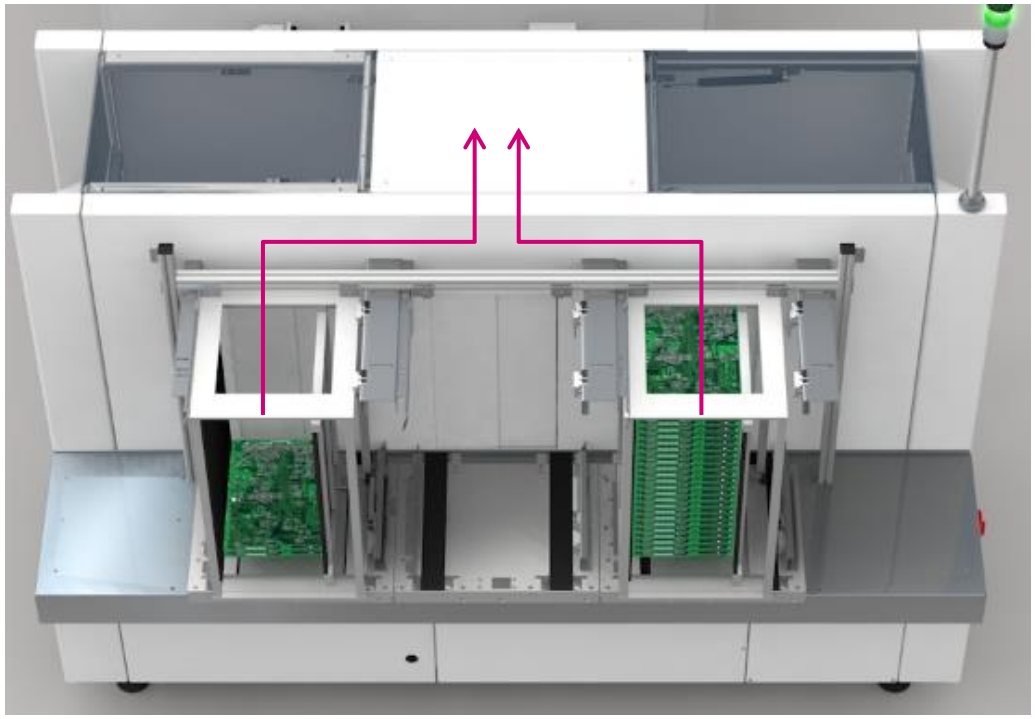


Step 3

Shuttle- and lifting axis moves sideways (horizontal and vertical) to the handover position

Functionality

- Unloading the magazines by starting from the top
- Magazine positions and handover position are freely programmable
- Product memory function for 200 recipes
- Graphical color display with touch- function
- Operator guidance on 4 levels
- Optional: Automatic magazine handover and takeover with interface to robot

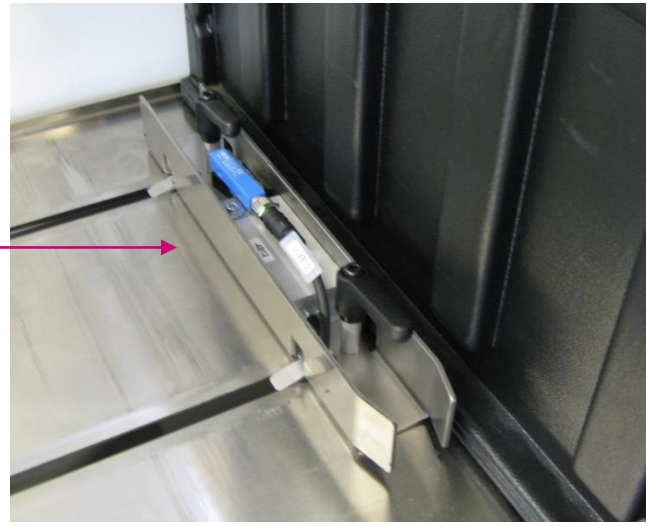


Magazine table

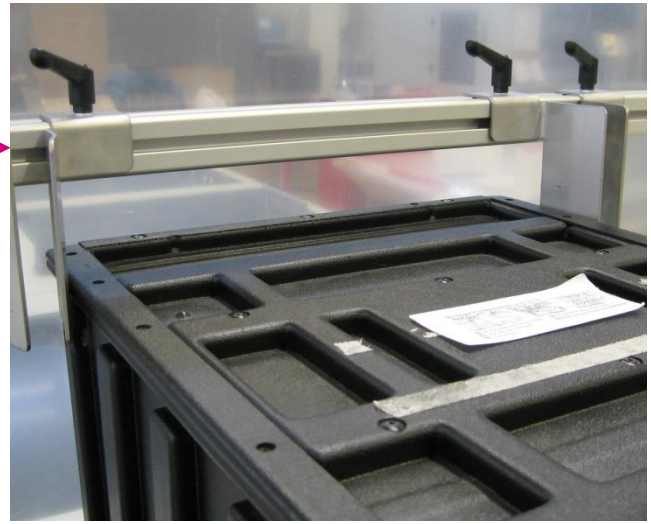
Magazine fixation on top and bottom by clamping lever, for tool-free adaption of different magazine sizes



Magazine clamp-mechanism on bottom with sensor detection.



Magazine guiding on top.

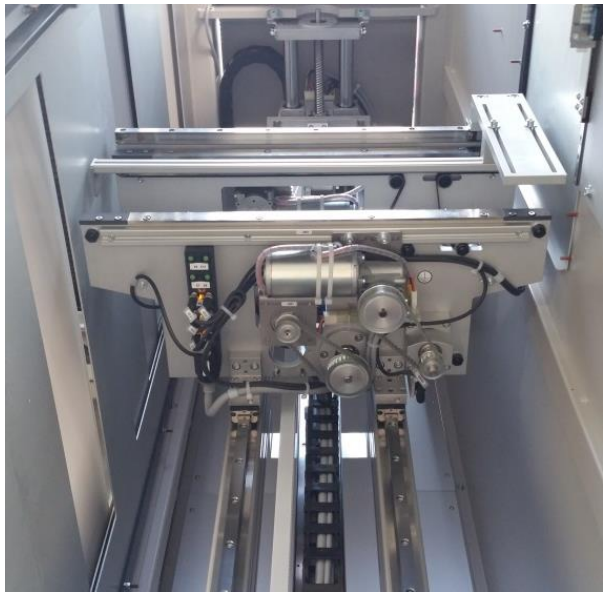


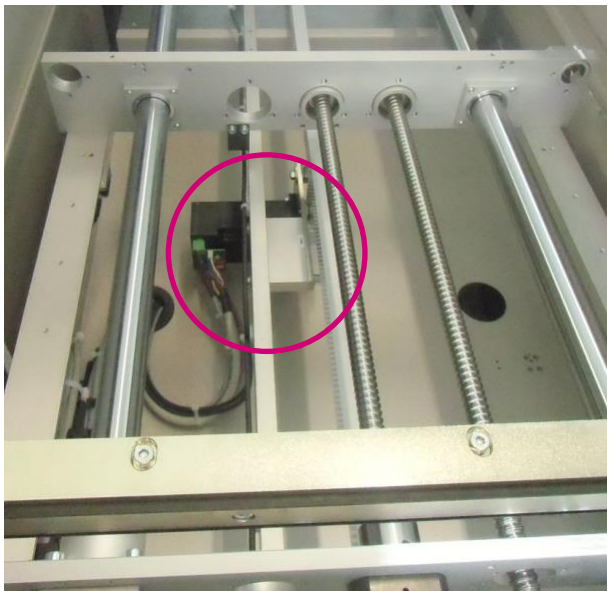
Shuttle-/ and lifting mechanism

› Servo- Drive for fast and exact positioning

› Easy programming of the magazine- and handover positions by teach-in function

› Shuttle-/ lifting mechanism for synchronized horizontal and vertical movements



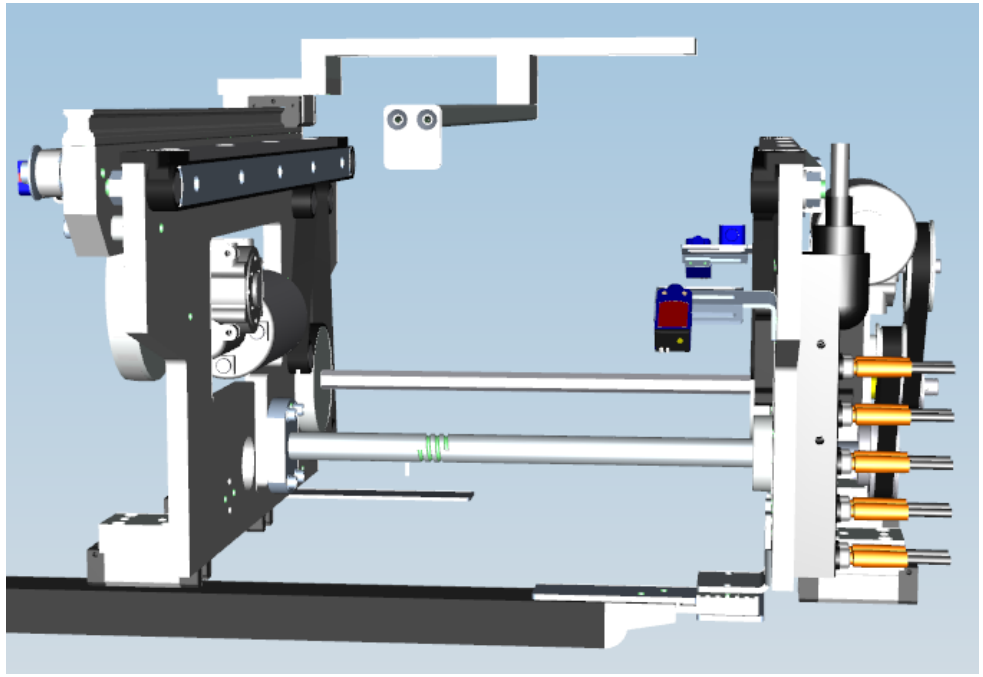


Extractor

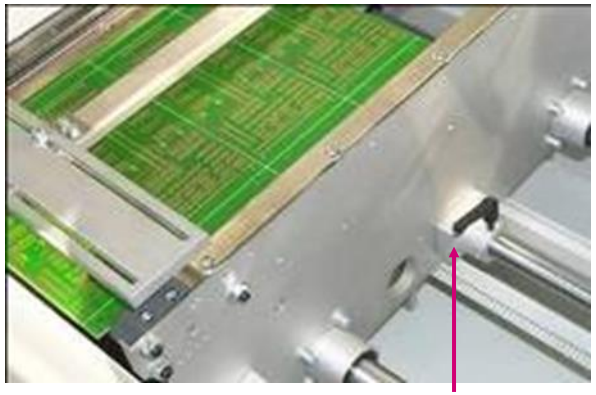
› Motorized extractor with adjustable electronic force limiter

› Designed for component height +12,5/-30mm or either +25/-30mm

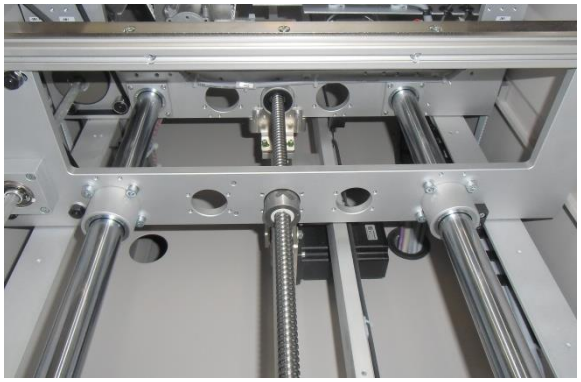




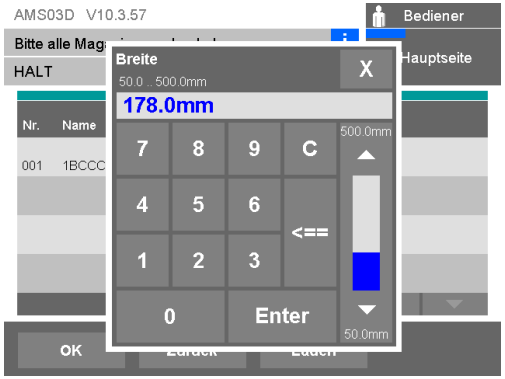
Width adjusting



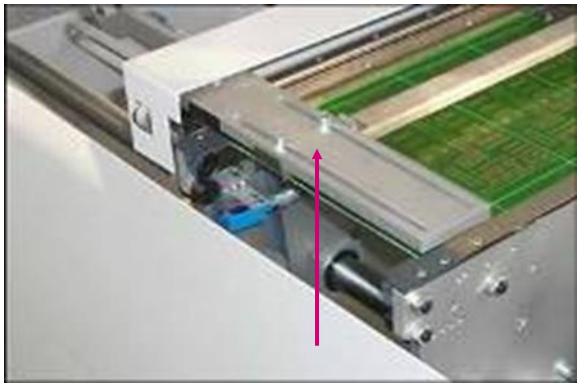
Manual adjustment of the transport width by clamping lever



Option: Electrical width adjustment



Option: Automatic width adjustment

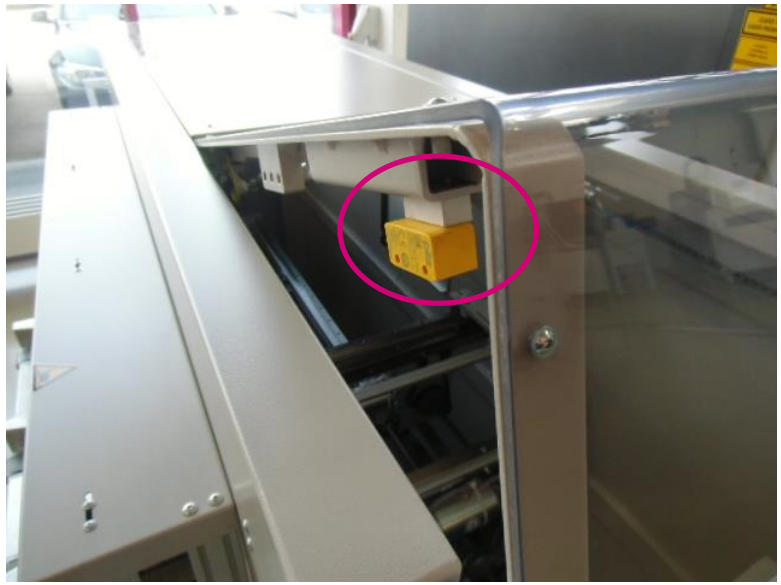


Extractor adjustable for different PCB- widths

Safety

› Emergency- stop button

› Hinged cover from both sides with contact-free safety switches (Interlock)





Shutter



Grip- protection between magazine table and shutter.



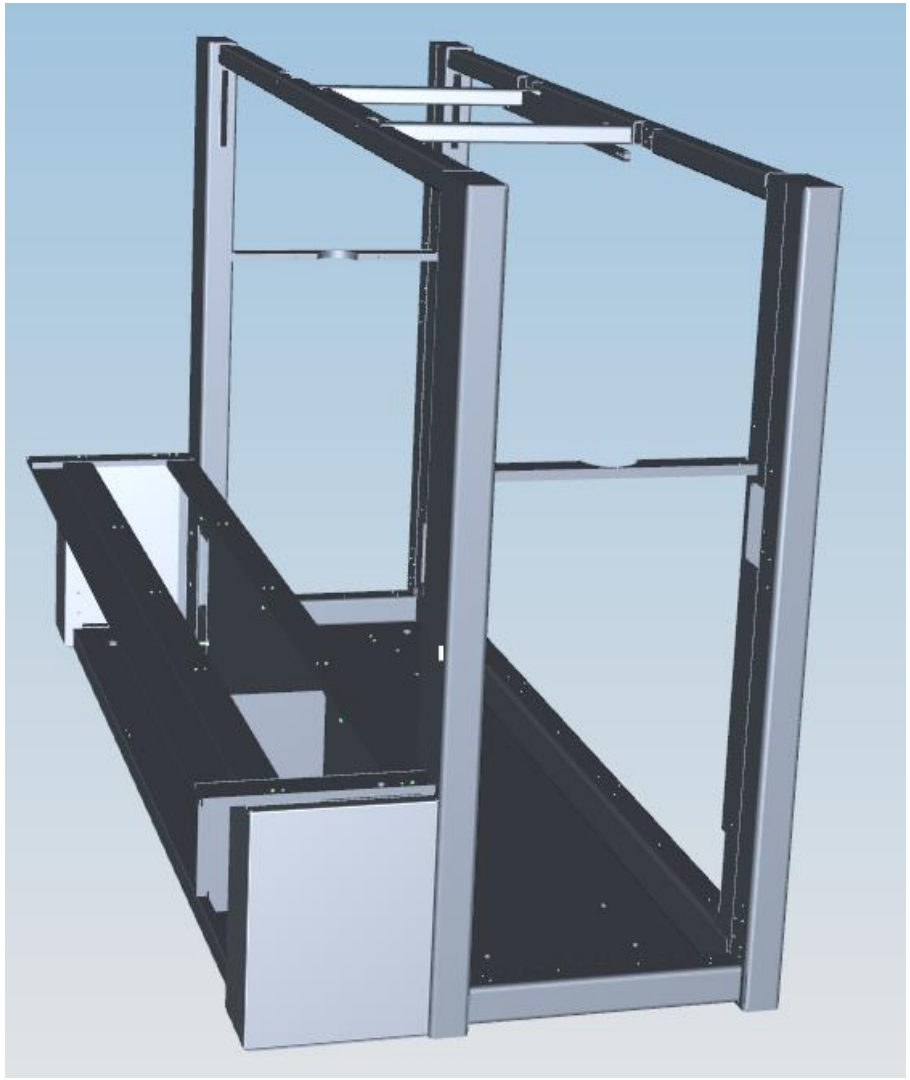


Grip- protection between shuttle and downline machine closes before each movement.



Frame

- Robust steel frame
- Completely ESD powder coated



Electric

› Electrical cabinet with flap door with double-bit lock

› Main switch usable as emergency stop



Electrical cabinet



Pneumatic

› Pneumatic cabinet with flapp door with square lock

› Maintenance unit with valve terminals



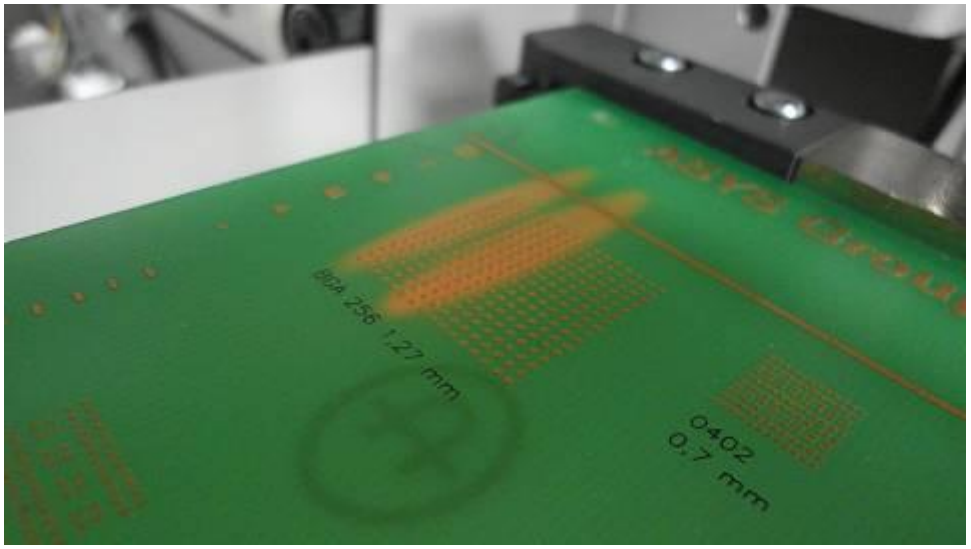


Pneumatic cabinet

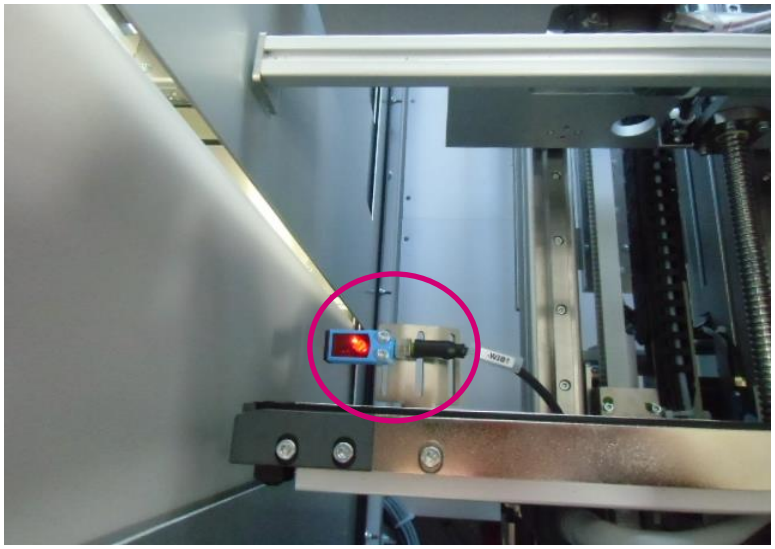
Sensors

› High- quality photoelectric proximity switch with „multiline“ light beam for safe detection of PCB’s with holes or cutouts.

› Additional sensors for “gap control” to monitor the transition gap between magazine and shuttle and between shuttle and downline machine.



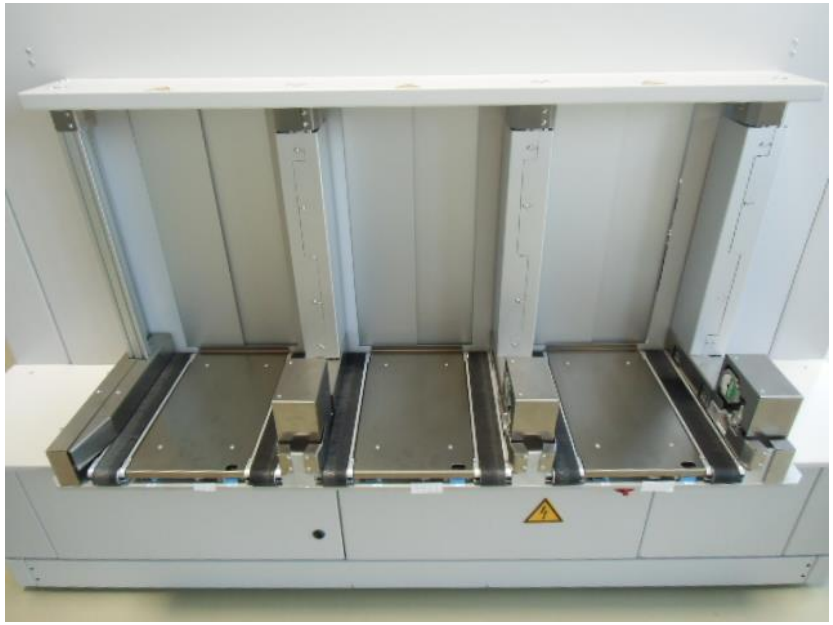
PCB detection



Gap control sensor

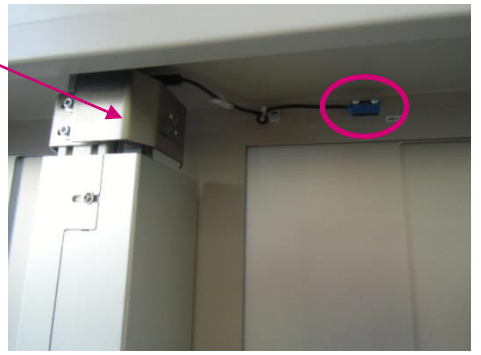
Option: Magazine admission for robot handling

Pneumatic magazine fixation on top and bottom



Magazine tensions below and on top with sensor request





Reflexion light sensor for positioning check of the robot



AMS03 Speed
Automatic Line- Unloader for magazines

› Unloading station for 3 PCB - magazines

› Fixed magazine table (optionally with magazine admission for roboter handling)

› Magazine loading by pusher mechanism, mounted conveyor unit

› Shuttle function and lifting machanism for synchronize vertical and horizontal movements



AMS03 Speed
Automatic Line- Unloader for magazines

› Lifting table with quick clamping system for the magazines with vertical fixation

› Monitoring the magazine position by the proximity sensor

› Average cycle time per PCB 11 sec. (8 – 13)

› consistent cycle time by a good/ bad sorting

› Magazine exchange during run-mode allows a non-stop production

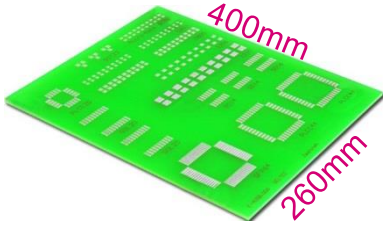
› Excellent accessibility of the magazines

› Smallest footprint



Technical Specification

Length / mm	910
Width / mm	2000
Height / mm	1350
PCB- length / mm	70 – 400
PCB- width / mm	50 – 260
Magazine format L x W x H / mm	400 x 320 x 568
Number of magazines	3



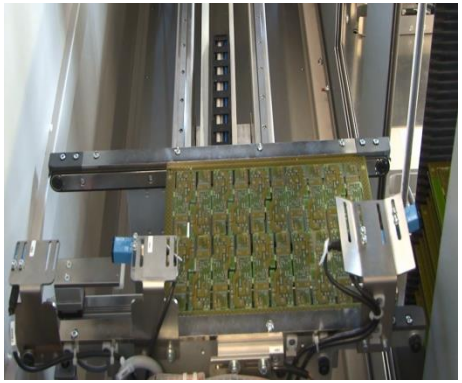


Work steps



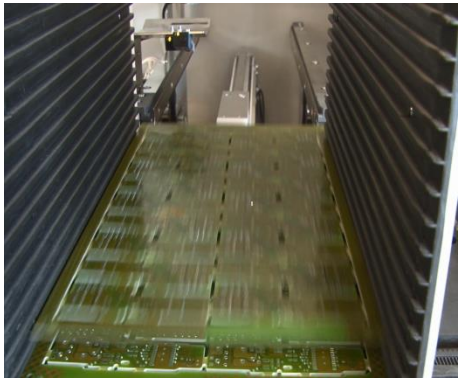
Step 1

PCB is taken over from n-1 machine



Step 2

Shuttle- lifting axis is moving to the respective magazine (vertical and horizontal). The transport conveyor is moving the PCB into the magazine.



Step 3

The pusher is lifting up and pushes the PCB completely into the magazine.



Step 4

As soon as the PCB is completely in the magazine the shuttle is moving back to the takeover position.

Functionality

› Loading the magazines by starting either from the top, from the bottom or alternately

› Magazine positions and handover position are freely programmable

› Product memory function for 200 recipes

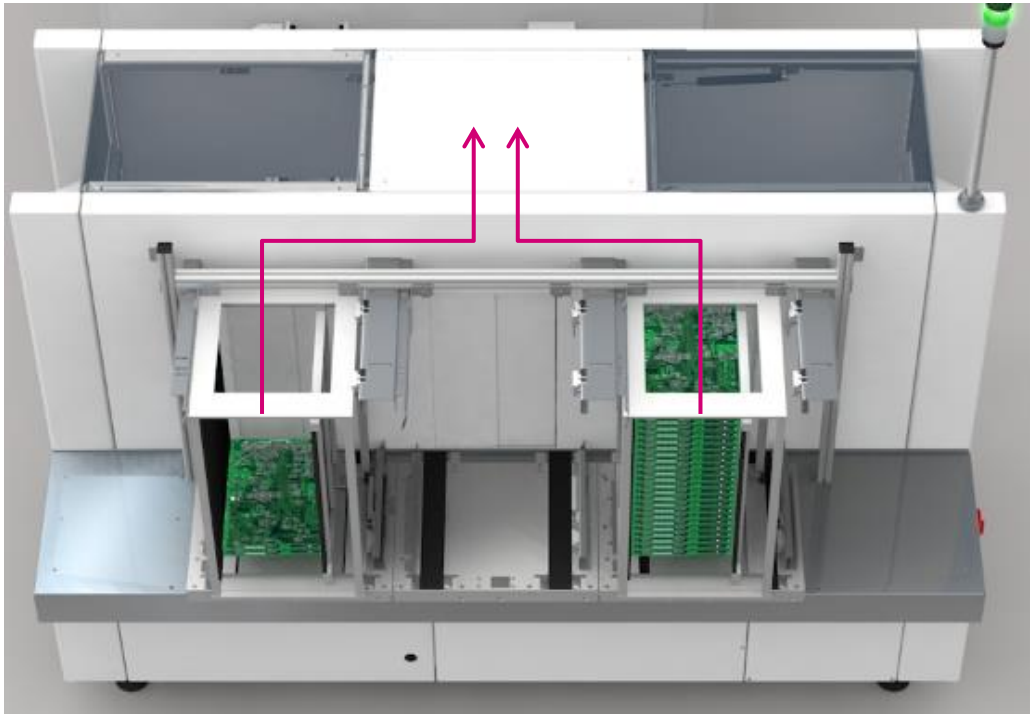
› Graphical color display with touch-function

› Operator guidance on 4 levels

Optional:

› Automatic magazine handover and takeover with interface to robot

› Automatic magazine width adjustment

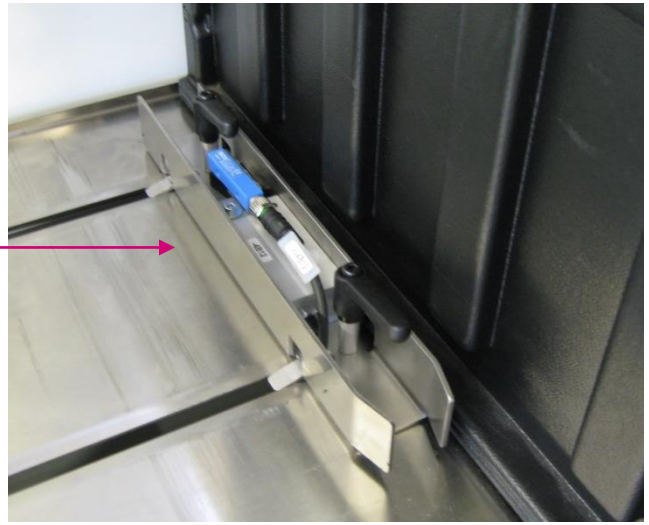


Magazine table

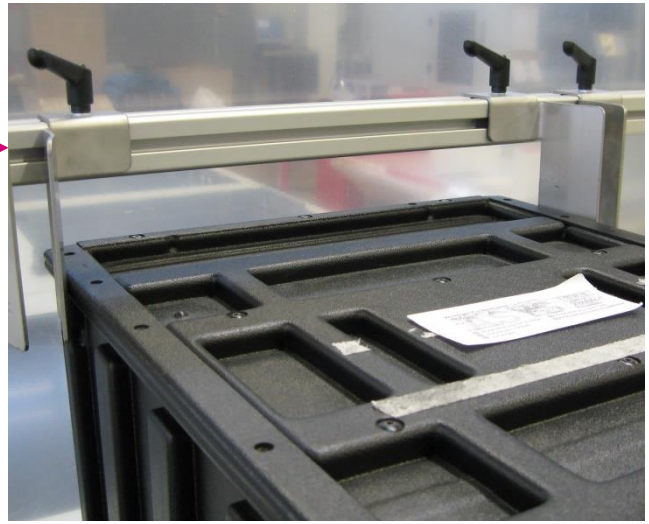
Magazine fixation on top and bottom by clamping lever, for tool-free adaption of different magazine sizes



Magazine clamp-mechanism on bottom with sensor detection.



Magazine guiding on top.



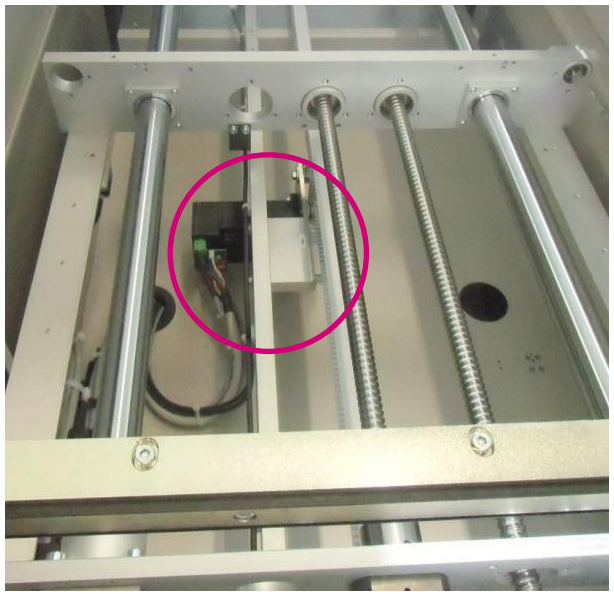
Shuttle-/ and lifting mechanism

› Servo- Drive for fast and exact positioning

› Easy programming of the magazine- and handover positions by teach-in function

› Shuttle-/ lifting machanism for synchronized horizontal and vertical movements



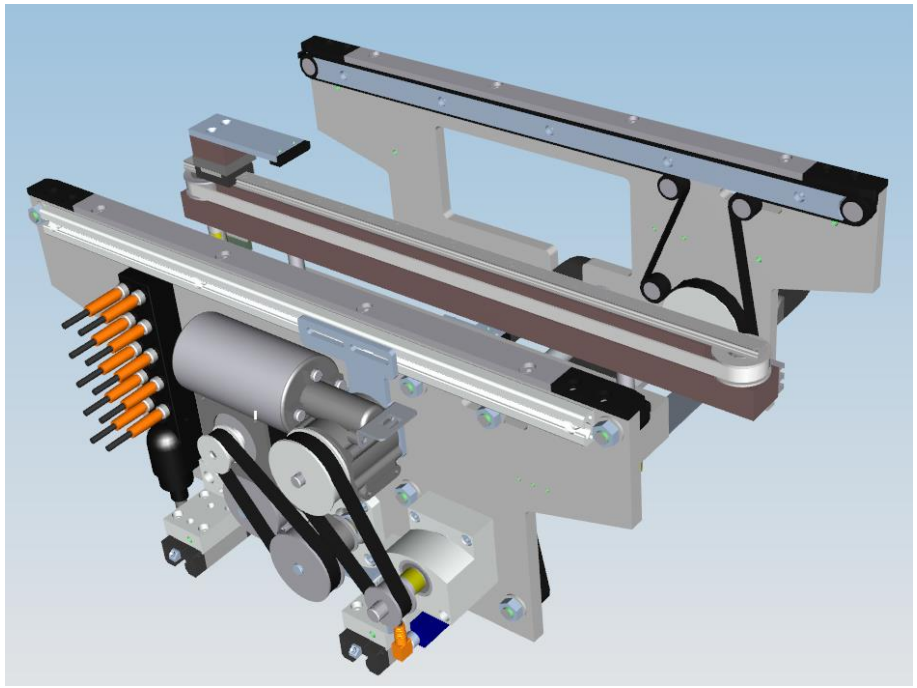


Pusher

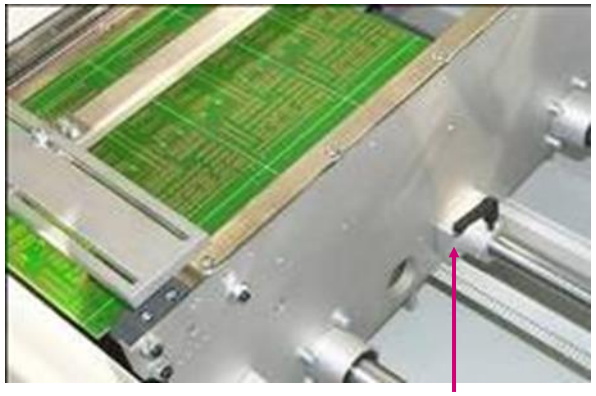
› Motorized pusher with adjustable electronic force limiter

› Designed for component height +40/-30mm





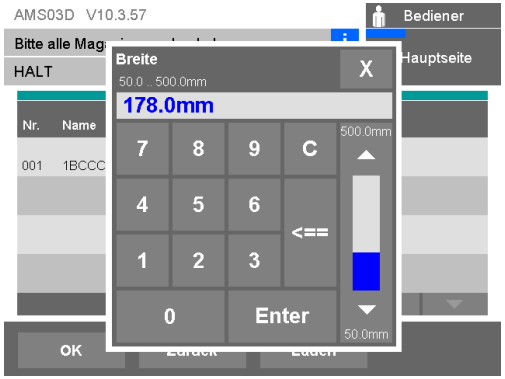
Width adjusting



Manual adjustment of the transport width by clamping lever



Option: Electrical width adjustment

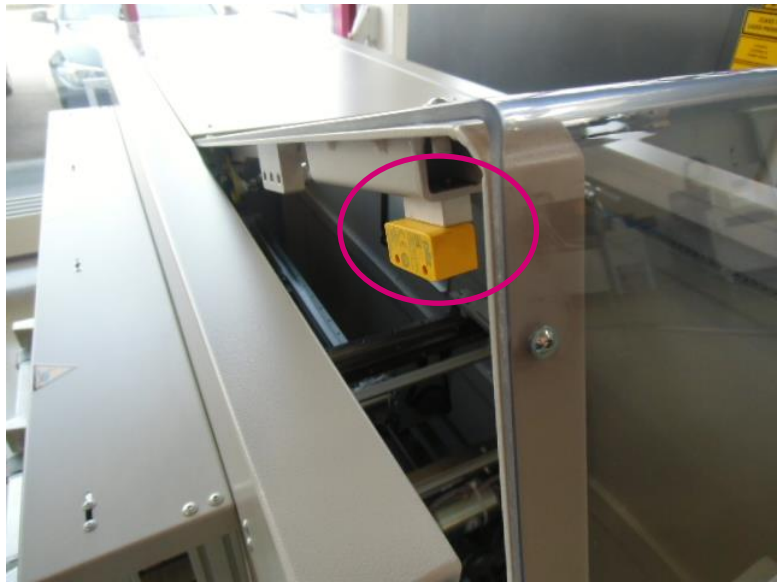


Option: Automatic with adjustment; Input of the PCB width at the control panel

Safety

› Emergency- stop button

› Hinged cover from both sides with contact-free safety switches (Interlock)





Grip- protection (shutter)



Grip- protection between magazine table and shutter.





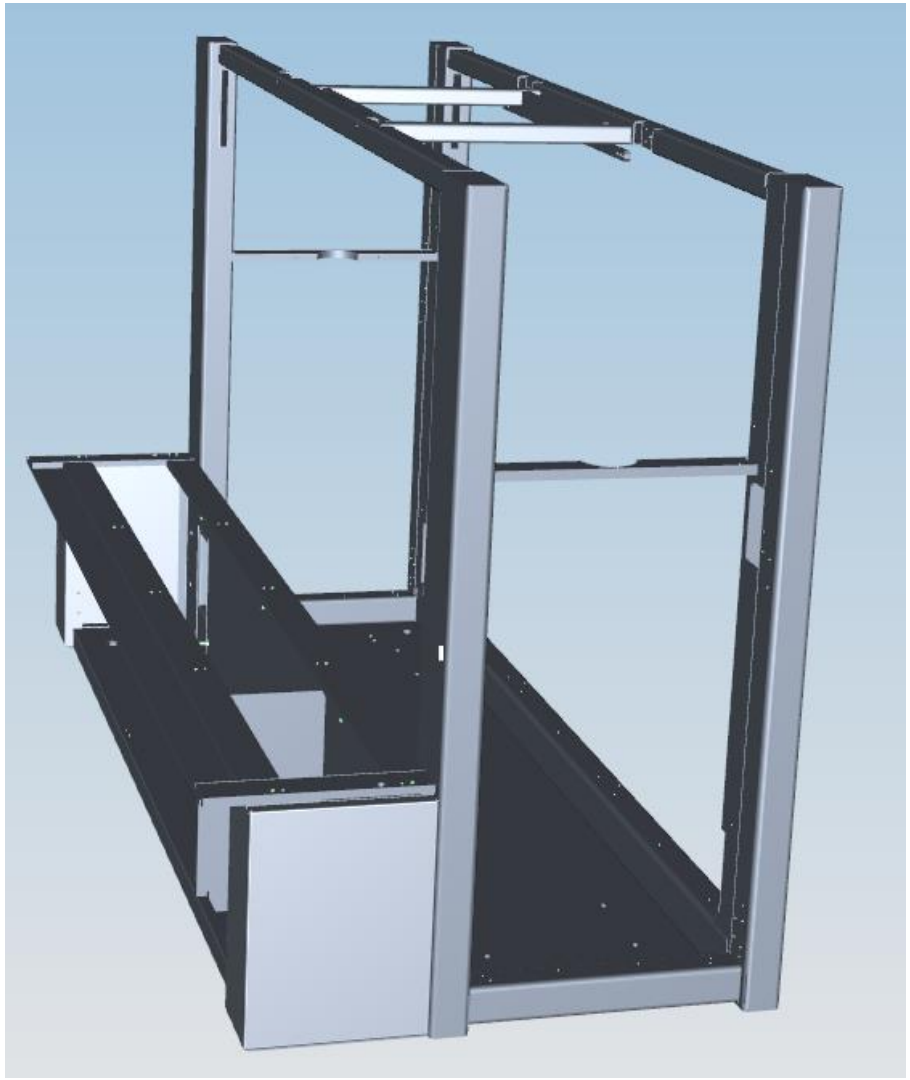
Grip- protection between shuttle and downline machine closes before each movement.



Frame

› Robust steel frame

› Completely ESD powder coated



Electric

› Electrical cabinet with flap door with double-bit lock

› Main switch usable as emergency stop



Electrical cabinet



Pneumatic

› Pneumatic cabinet with flapp door with square lock

› Maintenance unit with valve terminals



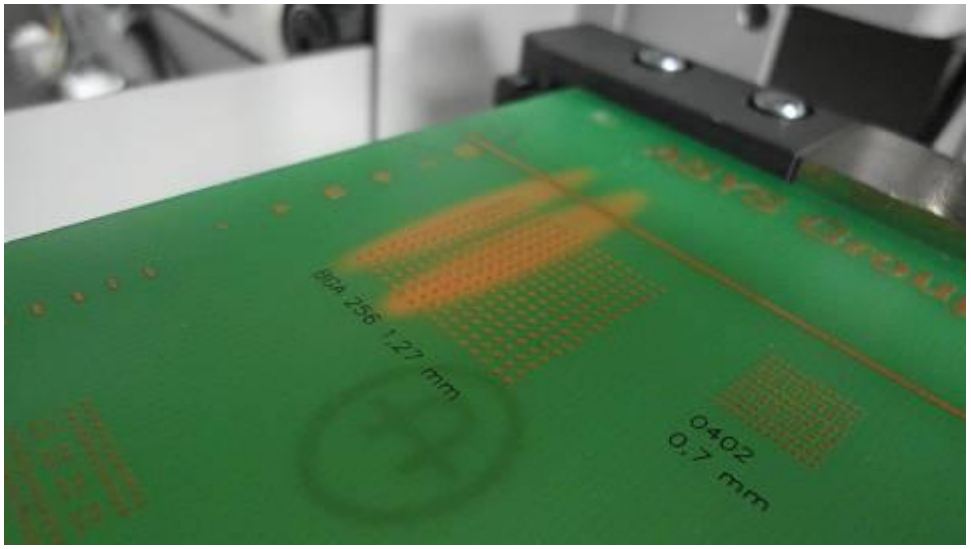


Pneumatic cabinet

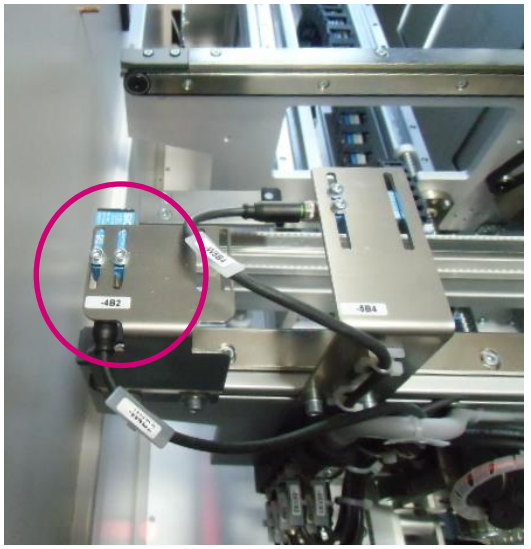
Sensors

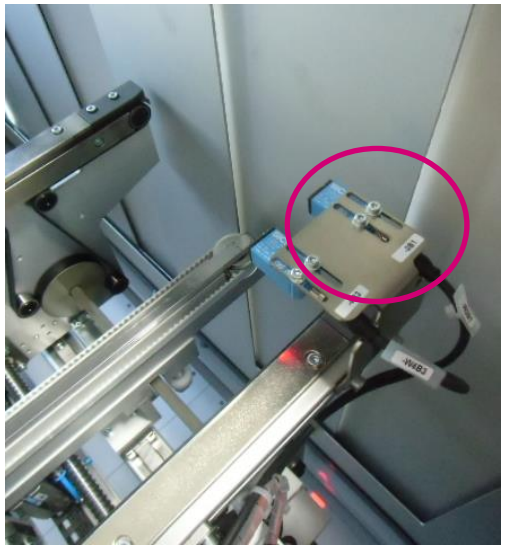
› High- quality photoelectric proximity switch with „multiline“ light beam for safe detection of PCB’s with holes or cutouts.

› Additional sensors for “gap control” to monitor the transition gap between magazine and shuttle and between shuttle and downline machine.



PCB detection

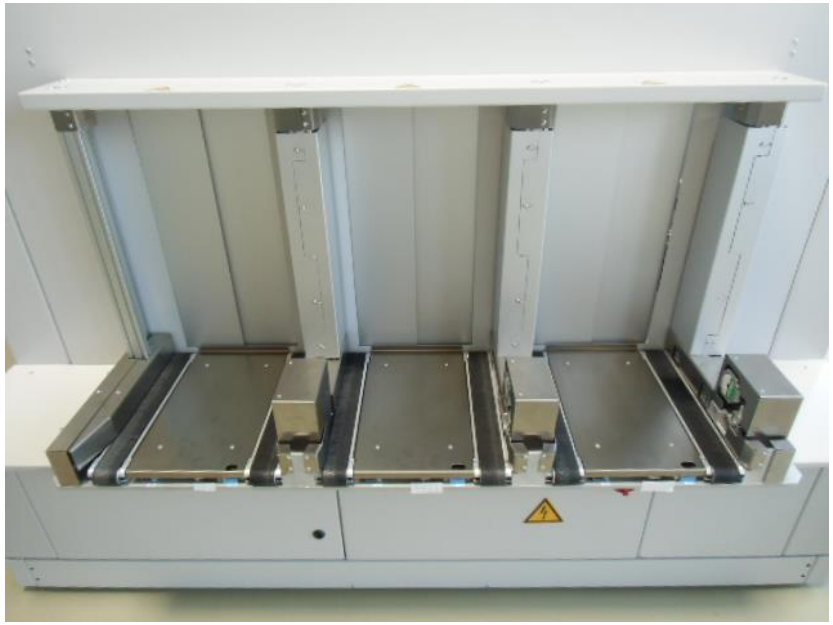




Gap control sensor

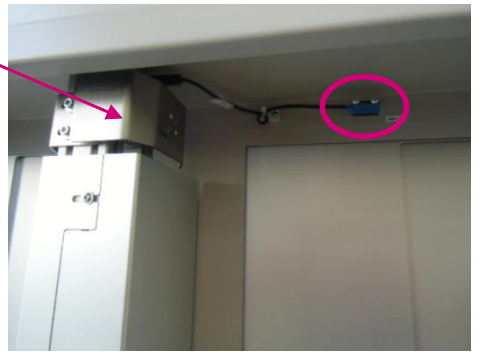
Option: Magazine admission for robot handling

Pneumatic magazine fixation on top and bottom



Magazine tensions below and on top with sensor request





Reflexion light sensor for positioning check of the robot



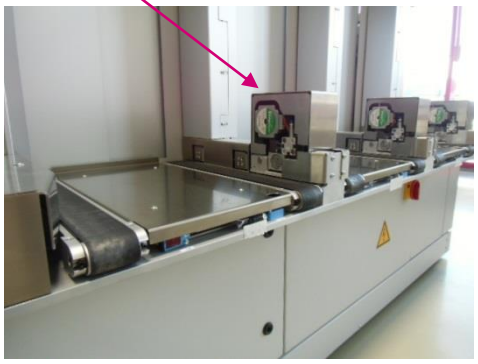
Option: Automatic magazine width adjustment

› The empty magazine is loading on the table and the machine automatically set-up the width of the magazine depending on the current product.



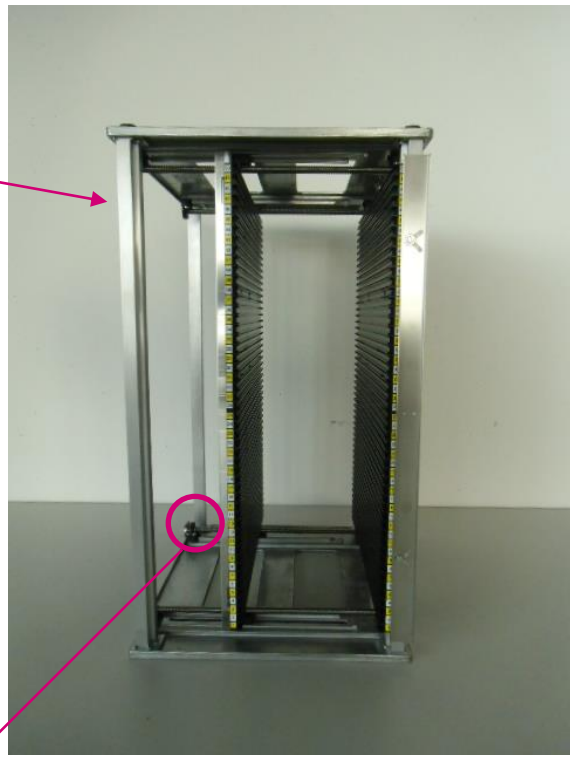
› Magazine width adjustment with pneumatic coupling to the synchronic wheel of the magazines.

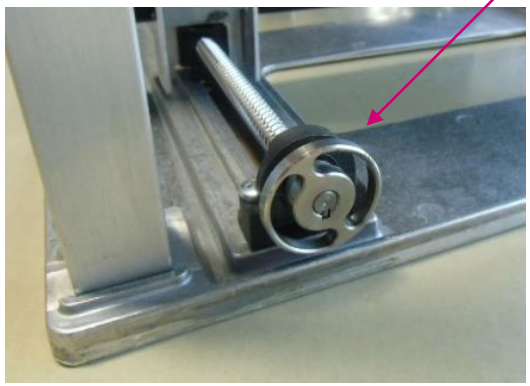




Option: Automatic magazine width adjustment

- Automatic magazine width adjustment topically only with CAB- magazines series 800 possible.
- No manual magazine set- up by the operator necessary.
- Conversion occurs through the pneumatic couple to the synchronic wheel of the magazine.





Additional options

› GOOD/BAD sorting function.
Software application to sort the boards in three different magazines. Decision with additional SMEMA interface signal

› Sensor for large PCB‘s
Additional sensor to monitor and enable the pusher procedure.

