



# PCB Catalog



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### *Patents*

Essential parts of the FlexLink product range are protected by patents and design regulations. Drawings are made to European standards.

# Genius PCB handling system

FlexLink offers a complete line of PCB handling units which incorporate standard assembly features throughout the product range. All modules are CE marked.

The PCB product line incorporates modular stand-alone units that are truly independent from other modules in the system. Each module has an on-board control system which allows the unit to function independently. Each module is able to be linked to other modules in the system by utilizing their up line and down line SMEMA communication. The modules can also be linked to a higher level monitoring or routing system by utilizing a host control system.

## A complete range

These high throughput modules provide transport, product buffering/accumulation and a full range of handling and routing alternatives.

The "open transfer" belt driver system eliminates shafts and bellows by incorporating a dual motor, ESD safe belt system. The motorized jog width adjust system serves as the base platform for all products.

Optional platform available, dual lane configuration and large board format 24"/609.6 mm.

The flexibility and quality of this system allows FlexLink to offer one of the most technically advanced conveyor platforms in the business.

## General specifications

Board length	75–508 mm (3"–20")
Board width (for 1-DL, 1-TL, 1-CC)	75–508 mm (3"–20")
Board width (Conveyors without Pusher)	50–508 mm (2"–20")
Board width (for 1-BC-XL, 1-LV-S and 1-LV-R)	50-460 mm (2" - 18")
Board thickness	0,6–6 mm standard. Consult factory for other thickness.
Board weight	Max. 3 kg (6,6 lbs.) Optional 10kg (22lbs)
Magazine weight each (including PCBs)	Max. 60 kg (132 lbs.)
Allowable warpage/sag	Max. 0,5% of PCB width
Required edge clearance	3 or 5mm (0,12" or 0,2") on the outer two edges of the board
Allowable component clearance	50 mm (2") above and below conveying surface
Belt exposure	Standard width: 3 mm (0,12") Optional width: 5 mm (0,2")
Board transfer height	953 mm (37,5") ±50 mm
Flow direction	Left to right flow (Right to left flow optional)
Standard interface	SMEMA 9851
Safety	CE compliant machines
Voltage	110V/60Hz, 240V/50Hz
Paint colour	RAL 9016
Control	PLC
Pneumatics	5 bar (72,5 psi) where applicable

# GENIUS 1-SL



## Single magazine line loader

The GENIUS 1-SL Single Magazine line loader is used when a magazine of PC boards needs to be loaded into a production line. This unit is capable of handling one magazine that can easily be accessed from the front of the machine. It is used in low volume applications or bottom side process with a single magazine.

### STANDARD FEATURES

- User friendly touchscreen display for function and alarm message
- Available only for programmable motorized width adjust
- Electrical pusher to slide PCBs automatically out of magazine
- Magazine locking by upper and lower manual clamps
- Programmable pitch setting
- Tower light display and alarm for machine status
- SMEMA interface
- ESD transparent windows
- ESD hinged cover with safety interlock

# GENIUS 1-SL

## Module specification

Length	1545 mm
Height	1705 mm
Width	1000 mm
Colour	RAL 9016
Air pressure	Not required

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

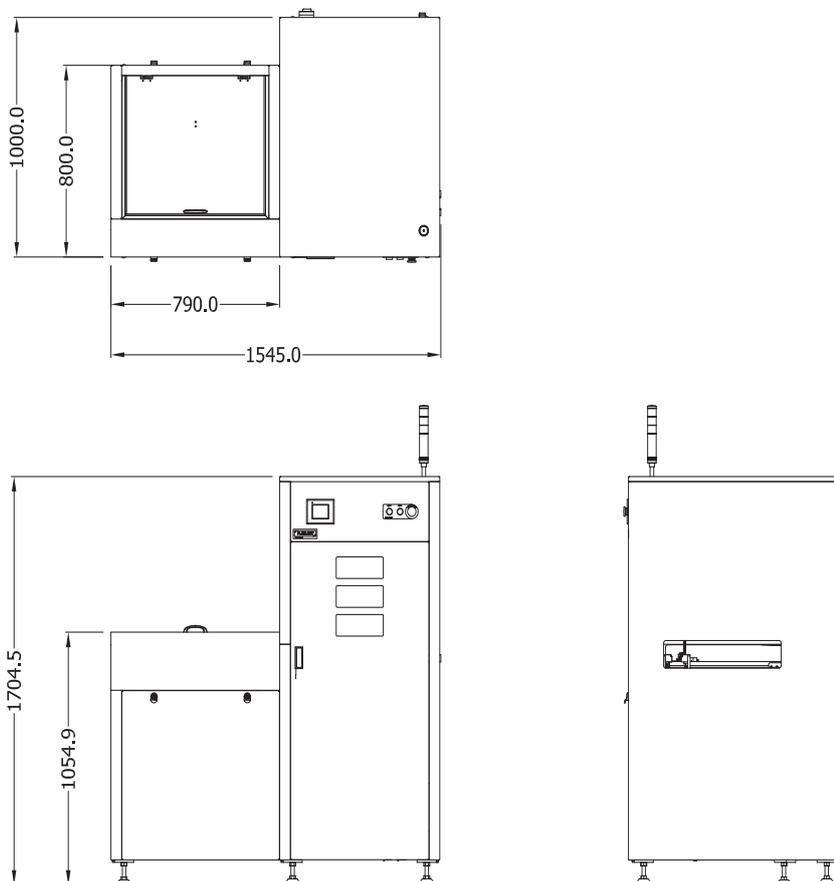
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to Left flow optional)
Buffer capacity	50 PCBs (pitch 10 mm) per magazine
PCB loading time	Approx. 7 sec
Magazine changeover time	Approx. 20 sec
Conveyor speed	Max. 15 m/min adjustable

## Magazine handling

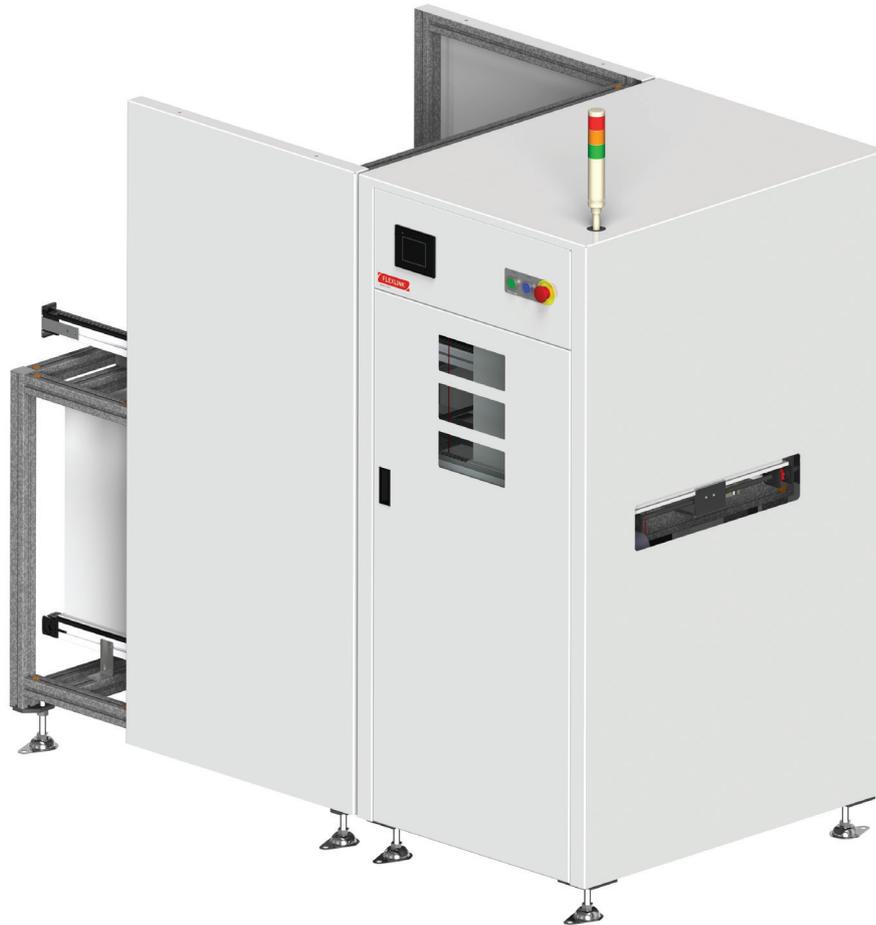
Buffer capacity	1 magazine
Min magazine size	CAB 701 / NIKKO NKAJ-0218R-G
Max magazine size	CAB 707 / NIKKO NKAJ-0546R-G
Magazine weight each (including PCBs)	Max 60 kg (132 lbs)
Other sizes and types available upon request.	

## Optional

Network Width Adjustment



# GENIUS 1-ML



## Multi magazine line loader

The GENIUS 1-ML Multi magazine line loader is used when a magazine of PCB boards is required to be loaded into a production line. This unit is capable of handling five magazines that can easily be accessed from the side of the machine. It is used in high volume applications that require large capacity storage.

### STANDARD FEATURES

- 5 magazine capacity for standard machine
- Electrical pusher to slide PCBs automatically out of the magazine
- Rack locking by upper and lower pneumatic clamps
- Programmable pitch setting
- User friendly touch screen display for function and alarm message
- Tower light display and alarm for machine status
- SMEMA interface
- ESD transparent windows

# GENIUS 1-ML

## Module specification

Length	1937 mm
Height	1700 mm
Width	997 mm
Colour	RAL 9016
Air pressure	5 bar

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

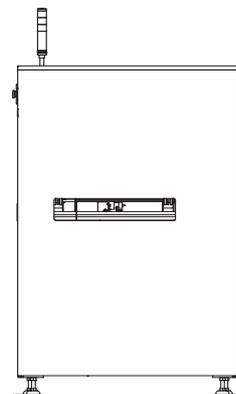
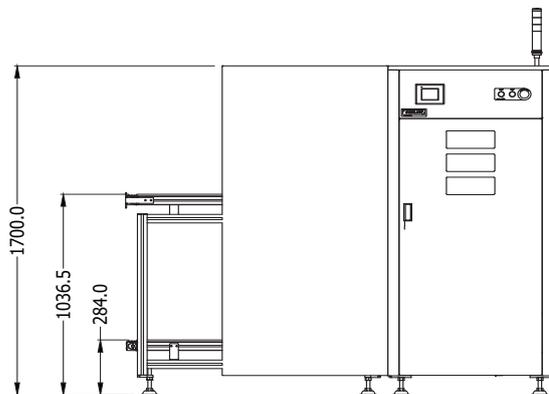
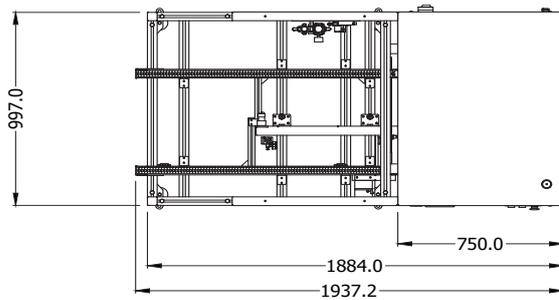
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Buffer capacity	50 PCBs (pitch 10 mm) per magazine
PCB loading time	Approx. 7 sec
Magazine changeover time	Approx. 20 sec

## Magazine handling

Buffer capacity	5 magazines
Min magazine size	CAB 701 / NIKKO NKAJ-0218R-G
Max magazine size	CAB 707 / NIKKO NKAJ-0546R-G
Magazine weight each (including PCBs)	Max 60 kg (132 lbs)
Other sizes and types available upon request.	

## Optional

Magazine handling buffer capacity	3 magazines
Network Width Adjustment	



# GENIUS 1-DL



## Dual magazine line loader

The GENIUS 1-DL Dual magazine line loader is used when a magazine of PCB boards is required to be loaded into a production line. This unit is capable of handling two magazines that can easily be accessed from the side of the machine. It is used in low to medium volume applications that require medium capacity storage.

### STANDARD FEATURES

- Programmable motorized width adjust
- Adjustable conveyor speed
- User friendly touch screen display for function and alarm message
- Dual servo drive for PCB positioning into magazine slot
- Electrical puller to slide PCBs automatically out of the magazine
- ESD sliding cover with safety interlock
- Configurable pitch selection
- Tower light display and alarm for machine status
- Safety light curtain sensor at magazine load/unload area

# GENIUS 1-DL

## Module specification

Length	1300 mm
Height	1204 mm
Width	2000 mm
Colour	RAL 9016

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	75 - 508 mm (3" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Buffer capacity	45 PCBs (10mm pitch) per magazine
Conveyor speed	Max 15m/min adjustable

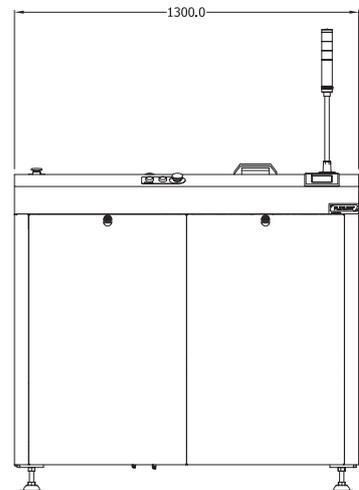
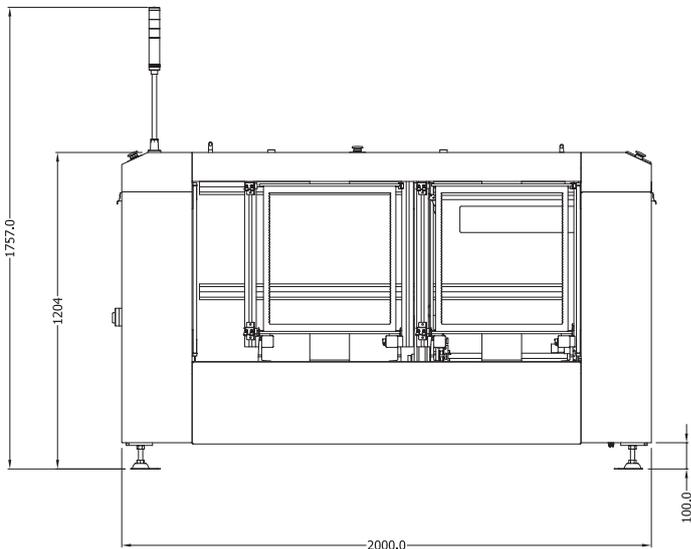
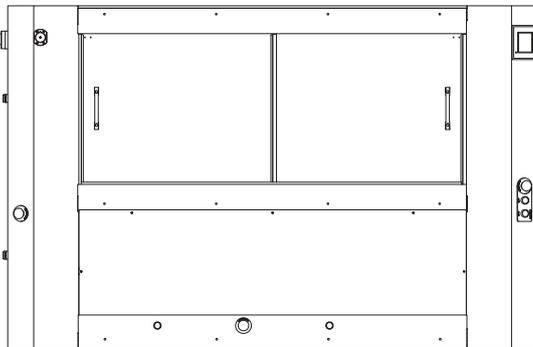
## Magazine handling

Buffer capacity	2 magazines
Min magazine size	CAB 701 / NIKKO NKAJ-0218R-G
Max magazine size	CAB 707 / NIKKO NKAJ-0546R-G
Magazine weight each (including PCBs)	Max 60 kg (132 lbs)

Other sizes and types available upon request.

## Optional

Network Width Adjustment  
AMR Interface



# GENIUS 1-TL



## Triple magazine line loader

The GENIUS 1-TL Triple magazine line loader is used when PCB boards in magazines are required to be loaded into a production line. This unit is capable of handling three magazines that can easily be accessed from the side of the machine. It is used in medium to high volume applications that require large capacity storage.

### STANDARD FEATURES

- Dual servo drive for PCB positioning into magazine slot
- Electrical puller to slide PCBs automatically out of the magazine
- Programmable motorized width adjust
- Adjustable conveyor speed
- User friendly touch screen display for function and alarm message
- SMEMA interface
- ESD sliding cover with safety interlocks
- Configurable pitch selection
- Tower light display and alarm for machine status
- Safety light curtain sensor at magazine load/unload area

# GENIUS 1-TL

## Module specification

Length	1300 mm
Height	1205 mm
Width	2700 mm
Colour	RAL 9016

## PCB handling

Transport system	Antistatic edge belt
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Conveyor speed	Max. 15 m/min adjustable

## PCB Dimensions

Board length	75 - 508 mm (3" - 20")
Board width	75 - 508 mm (3" - 20")
Board thickness	0.6 - 6 mm

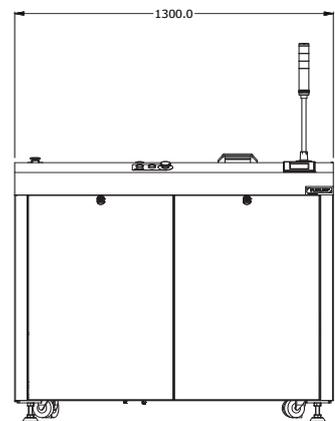
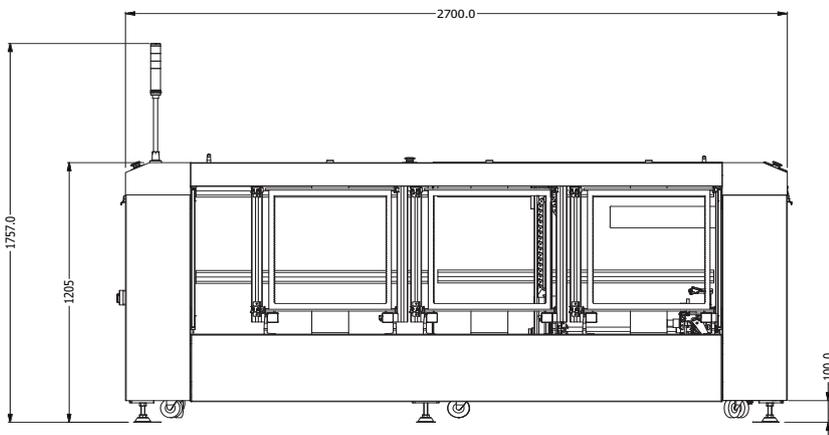
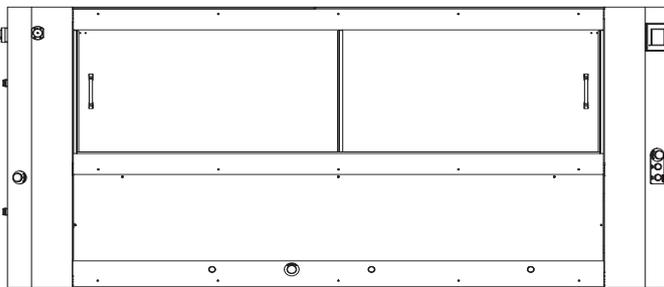
## Magazine handling

Buffer capacity	45 PCBs (10mm pitch) per magazine
Min magazine size	CAB 701 / NIKKO NKAJ-0218R-G
Max magazine size	CAB 707 / NIKKO NKAJ-0546R-G
Magazine weight each (including PCBs)	Max 60 kg (132 lbs)

Other sizes and types available upon request.

## Optional

Network Width Adjustment  
AMR Interface



# GENIUS 1-DK



## Destacker

The GENIUS 1-DK Destacker is used when unpopulated PC boards are to be introduced to a production line. The module can hold up to a 200 mm (7.8") stack of unpopulated PC boards at a weight of 15 kg (33 lbs). The unit is able to segregate one board from its stack onto the production line by utilizing a technically advanced releasing mechanism. The unit is able to achieve cycle time of approximately 10 seconds per board.

### STANDARD FEATURES

- Easy adjustment for PCB thickness
- Uninterrupted loading
- Motorized jog width adjust
- Adjustable conveyor speed
- Antistatic edge belts
- SMEMA interface

# GENIUS 1-DK

## Module specification

Length	600 mm
Height	1250 mm
Width	933 mm
Colour	RAL 9016
Air pressure	5 bar (72.5 psi)

## PCB dimensions

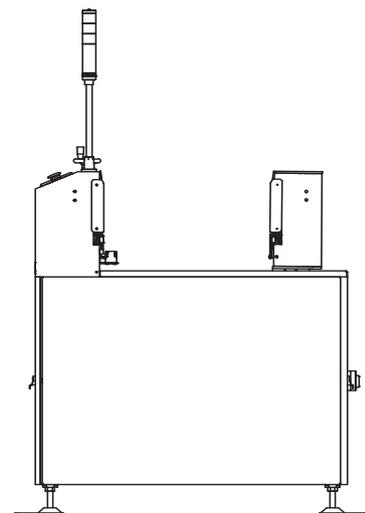
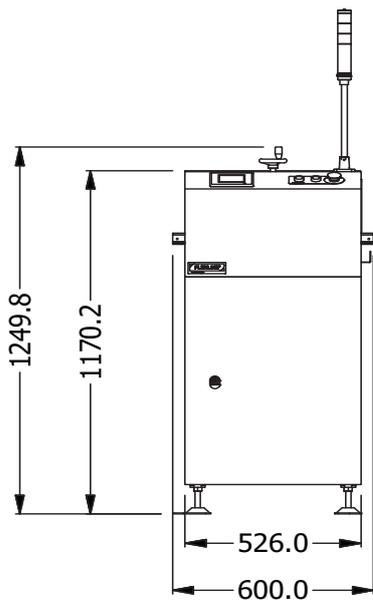
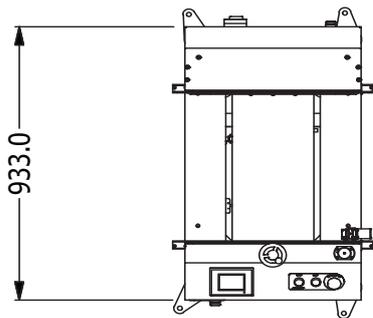
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Motorized jog width adjust
Cycle time	Approx. 10 sec
Conveyor speed	Max. 15 m/min adjustable

## Optional

Network Width Adjustment  
High Capacity Option



# GENIUS 1-VL



## Vacuum Loader

The GENIUS 1-VL VACUUM LOADER is used when unpopulated PC boards are required to be introduced to a production line. The module can hold up to a 350mm (13.8") stack of unpopulated PC boards at a weight of 40kg (88 lbs.) The unit can pick up one board at a time using spring loaded vacuum cradle assembly. The unit has an onboard vacuum generator and powered lift assembly. The module 1-VL can achieve cycle times of less than 8 seconds per board.

### STANDARD FEATURES

- User friendly touchscreen for operations
- Motorized lift mechanism for stack assembly
- Pneumatic actuated transfer assembly
- Vacuum cradle assembly with vacuum cup array to handle multi size PCB
- Tower light display for machine status
- Pass through mode available for inline production
- ESD protective safety covers

# GENIUS 1-VL

## Module specification

Length	820 mm
Height	1752mm
Width	1400 mm
Colour	RAL 9016
Air pressure	5 bar (72.5 psi)
Amperage	5A

## PCB dimensions

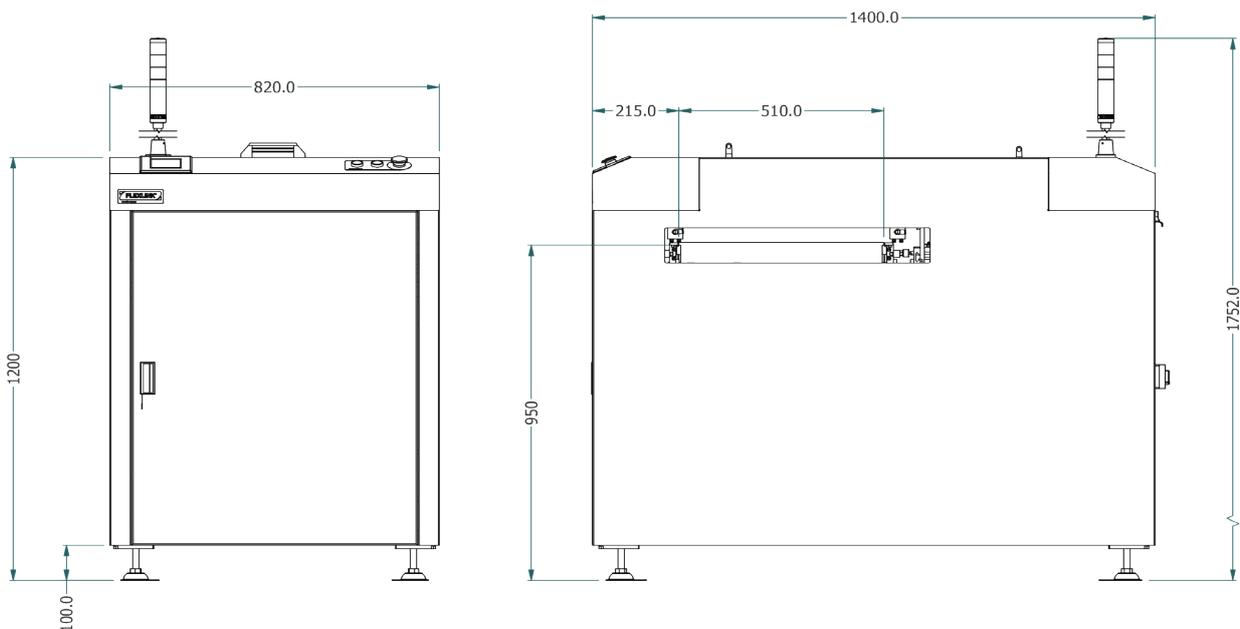
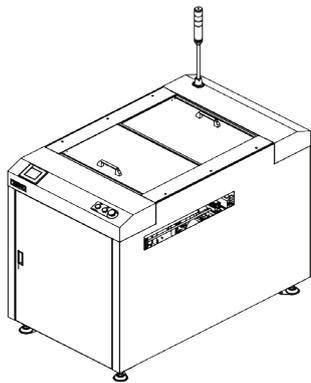
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Width adjustment	Programmable width adjustment
Cycle time	Approx. 8 sec
Conveyor speed	Max. 15 m/min adjustable

## Optional

Network Width Adjustment



# GENIUS 1-EB



## Edge belt conveyor

The GENIUS 1-EB-500 to 1-EB-1500 Edge belt conveyor is a cost effective solution to handle board buffering, indexing and standard board transfers. The unit is designed to be a dependable and efficient transfer conveyor.

### STANDARD FEATURES

- Motorized jog width adjust
- Adjustable conveyor speed
- Operator inspect feature
- SMEMA interface

### Optional

- ESD hinged cover with safety interlock
- Additional belt segment
- Cooling fan bank with support
- Optional Network Width Adjustment

# GENIUS 1-EB

## Module specification

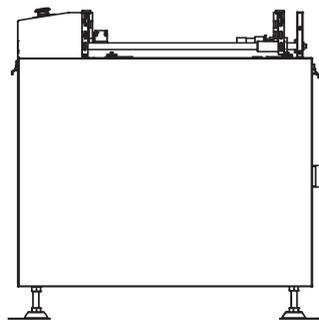
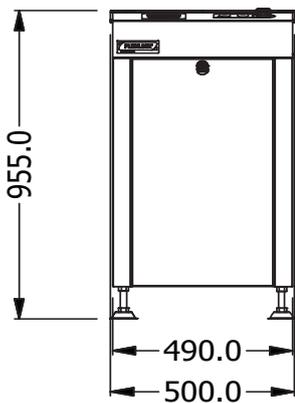
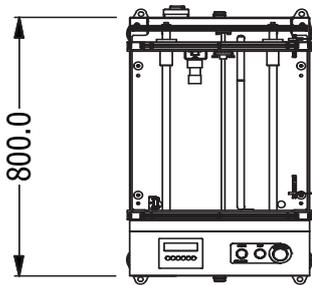
Length base	500 mm 600 mm (Apply for length of railset 600-999 mm) 1000 mm (Apply for length of railset 1000-1499 mm) 1500 mm (Apply for length of railset 1500-2000 mm)
Length of railset	500- 2000 mm
Height	955 mm
Width	800 mm
Colour	RAL 9016

## PCB dimensions

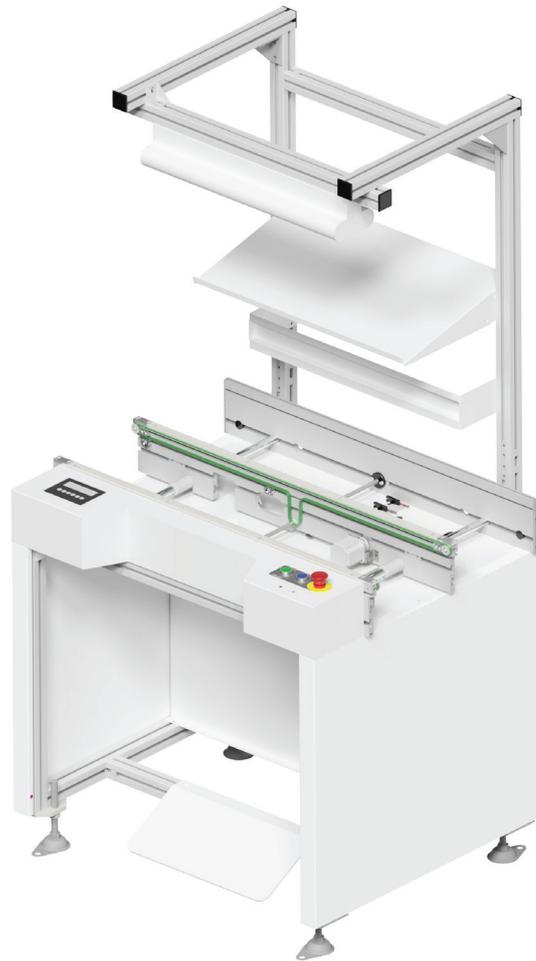
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Motorized jog width adjust
Cycle time	Approx. 10 sec
Conveyor speed	Max. 15 m/min adjustable



# GENIUS 1-WS



## Inline workstation

The GENIUS 1-WS Workstation can support a full array of workstation components. It can be arranged with just an inspect feature or be suited with a full assortment of lights, shelves, document holder, and other workstation components. The customer can mix and match which accessories best suits their individual needs. The module comes equipped with an ESD safe work surface and an operator inspect feature. The module can be configured to function with only one work position, or in combination with additional buffer sections.

### STANDARD FEATURES

- Motorized jog width adjust
- Stepper motor speed adjust for oven speed matching
- Antistatic work surface
- Operator inspect feature
- SMEMA interface
- Stepper motor speed control

### Standard accessories

- Foot rest
- Suspension rail
- Steel shelf
- Light support with overhead light

# GENIUS 1-WS

## Module specification

Length	1000 mm
Height	1936 mm
Width	845 mm
Colour	RAL 9016

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

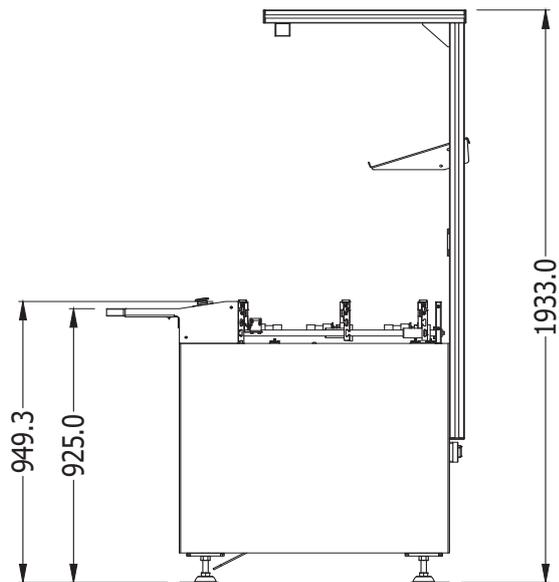
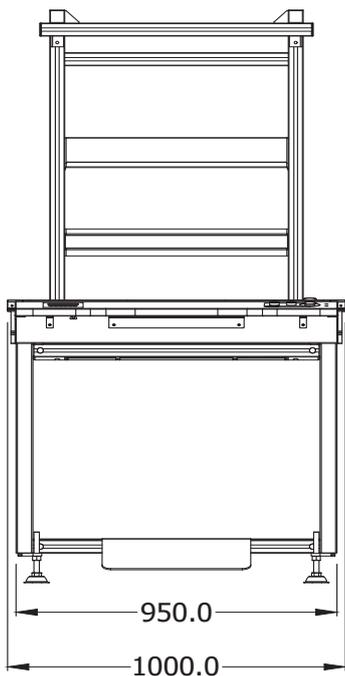
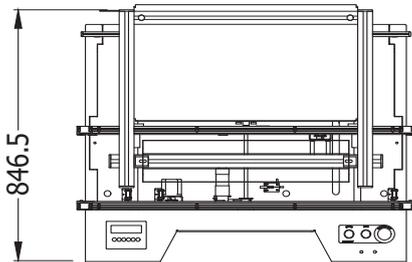
## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Motorized jog width adjust
Cycle time	Approx. 10 sec
Conveyor speed	Max. 15 m/min adjustable

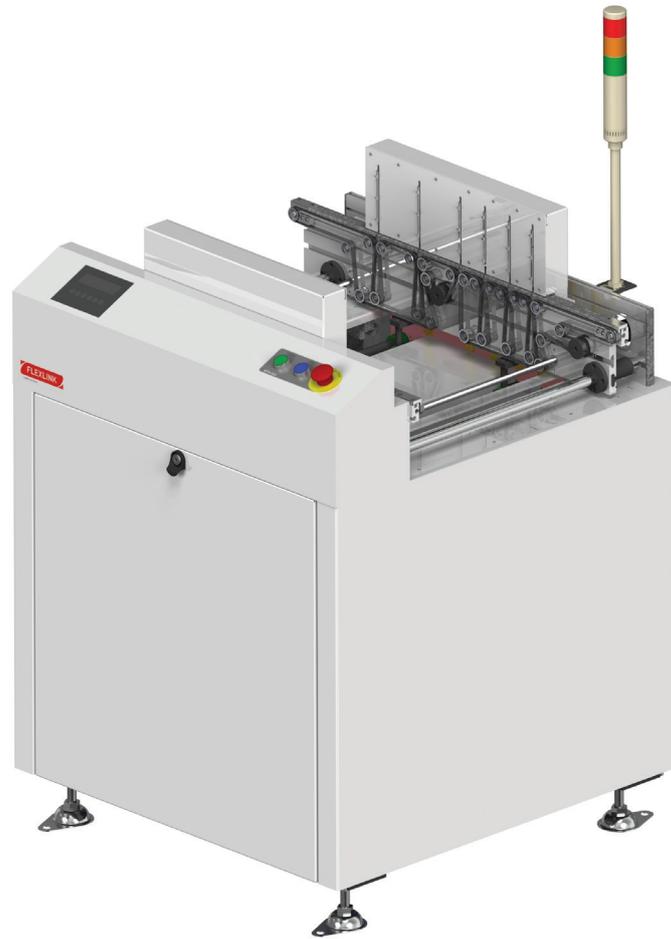
## Optional

Available in 1219.2 mm and 1500 mm length sections

Network Width Adjustment



# GENIUS 1-RJ



## Reject conveyor three tier

The GENIUS 1-RJ Reject conveyor three tier is used as failed board buffer. The unit receives a good/no good communication signal from the SPI or AOI system. If fail signal is received, the finger lift assembly raises the board for operator inspection without line interruption.

### STANDARD FEATURES

- Motorized jog width adjust
- Adjustable conveyor speed
- Antistatic edge belts
- Operator inspect feature
- SMEMA interface
- Buffer 3 tier (AOI)

### Optional

- Buffer 1 tier (SPI)
- Network Width Adjustment

# GENIUS 1-RJ

## Module specification

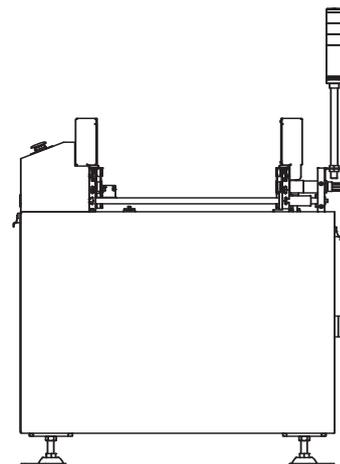
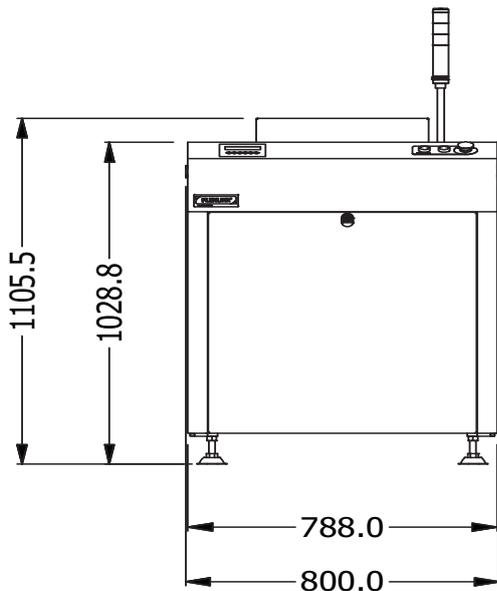
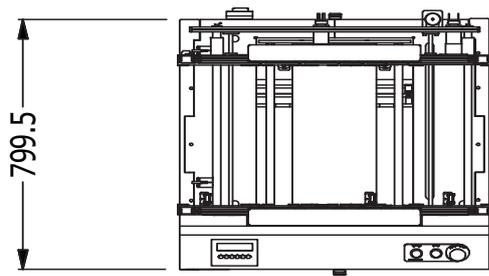
Length	800 mm
Height	1106 mm
Width	800 mm
Colour	RAL 9016

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Motorized jog width adjust
Buffer capacity	3 board buffer
Cycle time	Approx. 10 sec
Conveyor speed	Max. 15 m/min adjustable



# GENIUS 1-RB



## Reject Buffer

The GENIUS 1-RB Reject Slot Type Buffer utilizes a high-speed servo-controlled system, which accurately positions the carriage for precise transfers. The Reject Buffer uses a revolutionary transport system that simplifies the storage of 25 Rejected PC boards. This new system eliminates the need for belts, pushers, and pullers.

### STANDARD FEATURES

- User friendly touchscreen display for functionality and alarm messages
- Motorized controlled roller pin design transfer system
- Reject buffer, and pass-through modes included
- Good/no good software
- Dual outlet conveyor for good board lower-level transfer, rejected board top level for removal and review
- Up-line SMEMA inhibit signal
- Servo controlled lift mechanism
- Tower light display for machine status
- ESD safe design

# GENIUS 1-RB

## Module specification

Length	1245 mm
Height	1842.5 mm
Width	1070 mm
Colour	RAL 9016
Pneumatics	NA
Amerage	10A

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

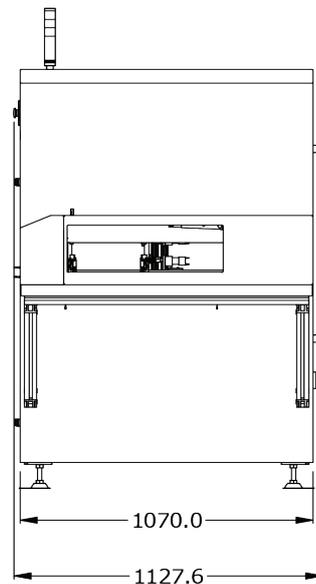
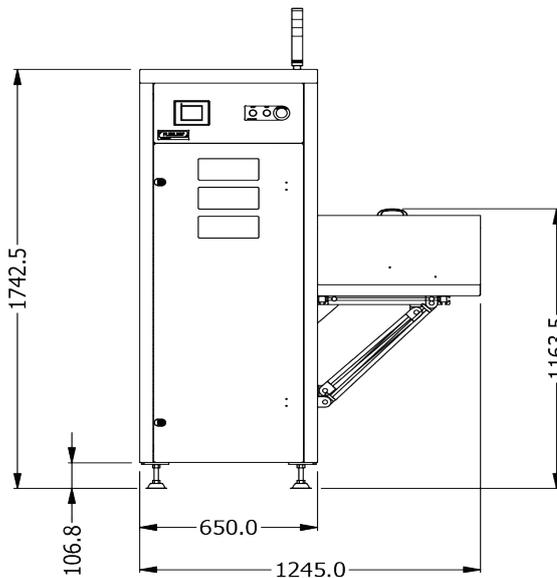
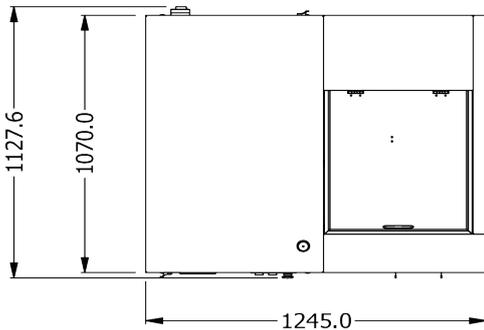
## PCB handling

Transport system	Antistatic roller design
Width adjustment	Programmable motorized width adjustment
Buffer capacity	25 PCBs
Pitch	26mm
Cycle time	Approx. 10 sec
Conveyor speed	Max. 12 m/min adjustable

## Optional

Remote Review Function- Interface with AOI rework station saving the board-ID from the AOI on each slot, allow operator change PCB status remotely.

Note: AOI machine communication protocol information required at time of order



# GENIUS 1-LB



## LIFO buffer

The GENIUS 1-LB LIFO buffer is designed to help balance the flow of your production line by temporarily storing work in process. Storing products in “last in, first out” mode, the LIFO buffer is able to hold 25 PC boards (single pitch) ranging in size from 2”x3” up to 20”x20”. The LIFO buffer receives the PCB’s from the incoming conveyor and stores them utilizing a vertically aligned toothed chain. On demand from the following unit, the PCB’s can be lowered back down onto the conveyor and transferred down to downstream machine.

### STANDARD FEATURES

- User friendly touch screen display for function and alarm message
- Programmable motorized width adjust
- Adjustable conveyor speed
- Large capacity up to 25 PCBs
- SMEMA interface
- Configurable pitch selection
- Tower light display and alarm for machine status
- ESD transparent windows

### Optional

- Open-style LIFO buffer
- Cooling fan bank
- Network Width Adjustment

# GENIUS 1-LB

## Module specification

Length	600 mm
Height	1825 mm
Width	1050 mm
Colour	RAL 9016
Air pressure	5 bar (72.5 psi)

## PCB dimensions

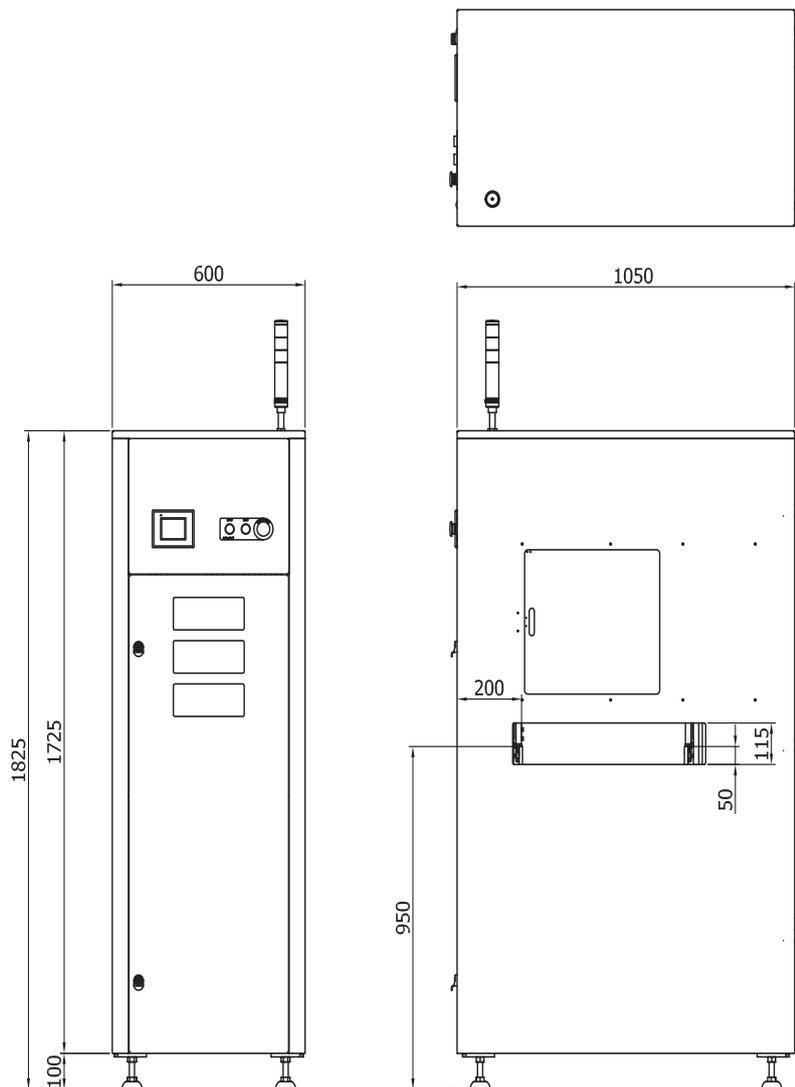
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Buffer transport system	Vertically aligned toothed chain
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Cycle time	Approx. 15 sec
Conveyor speed	Max. 15 m/min adjustable
Max. PCB thickness	8 mm at edge contact area

## Optional

Network Width Adjustment



# GENIUS 1-FB



## FIFO/LIFO buffer slot style

The GENIUS 1-FB FIFO buffer slot style utilizes a high speed servo control system, which accurately positions the carriage for precise transfers. The FIFO/LIFO buffer uses a revolutionary transport system that simplifies the storage of 25 PC boards. This new system totally eliminates the need for belts, pushers and pullers.

### STANDARD FEATURES

- No magazine required
- Antistatic safe transfer roller design
- Programmable motorized width adjust
- Adjustable conveyor speed
- Servo controlled lift motion
- Buffer 25 boards at a pitch of 26 mm (1.02")
- FIFO/LIFO/pass-through mode
- Slot timer delay settings for PCB cooling
- Tower light display and alarm for machine status
- Upline SMEMA inhibit signal
- Touch screen interface
- ESD transparent windows
- Cooling fan bank
- Configurable pitch setting

### Optional

- Network Width Adjustment

# GENIUS 1-FB

## Module specification

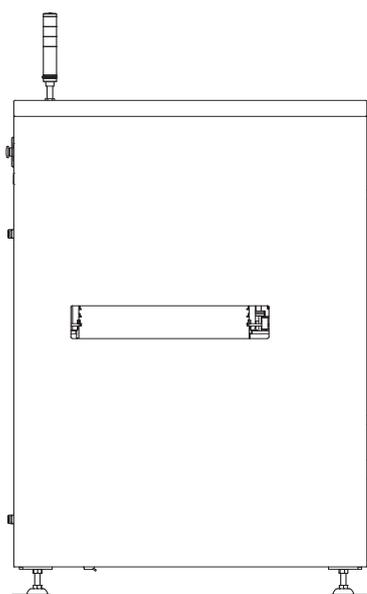
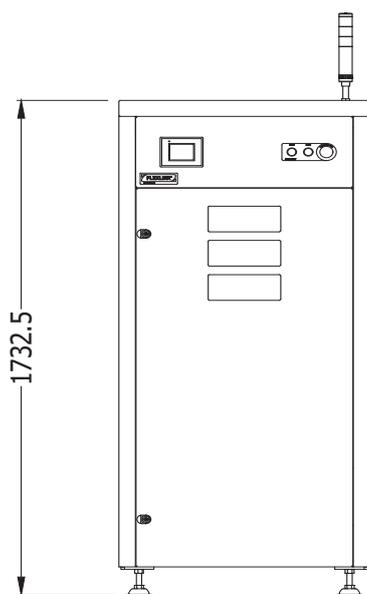
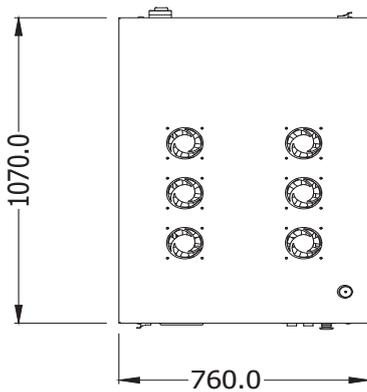
Length	760 mm
Height	1733 mm
Width	1070 mm
Colour	RAL 9016

## PCB Dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Metal roller including antistatic orings
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Buffer capacity	25 PCBs
Conveyor speed	Max. 12m/min adjustable



# GENIUS 1-FD



## FIFO/LIFO buffer belt style

The GENIUS 1-FD FIFO buffer belt style utilizes a high speed servo control system, which accurately positions the carriage for precise transfers. The FIFO buffer uses a revolutionary transport system that simplifies the storage of 25 PC boards. This new system totally eliminates the need for pushers and pullers.

### STANDARD FEATURES

- No magazine required
- Each slot has driven belt conveyor for sensitive and warped PCBs
- Programmable motorized width adjust
- Servo controlled lift motion
- Adjustable conveyor speed
- Buffer 25 boards at a pitch of 26 mm (1.02")
- FIFO/LIFO/pass-through mode
- Slot timer delay settings for PCB cooling
- Tower light display and alarm for machine status
- Up line SMEMA inhibits signal
- Touchscreen interface
- ESD transparent windows
- Cooling fan bank
- Configurable pitch setting

# GENIUS 1-FD

## Module specification

Length	760 mm
Height	1733 mm
Width	1070 mm
Colour	RAL 9016
Air pressure	5 bar (72.5 psi)

## PCB Dimensions

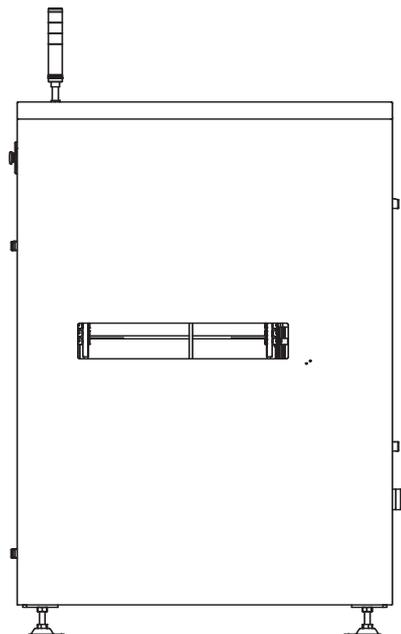
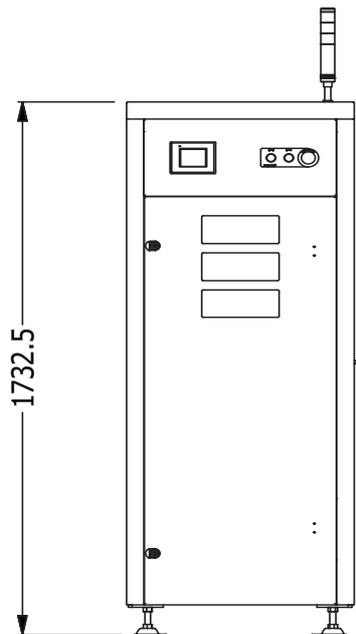
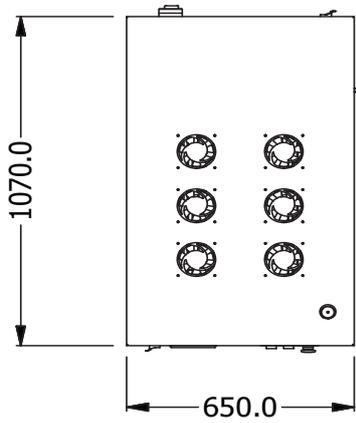
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Conveyor speed	Max. 15 m/min adjustable

## Optional

Network Width Adjustment



## GENIUS 1-CB



### Single magazine combo buffer pass-through

The GENIUS 1-CB Single magazine buffer module is used to facilitate the buffering of PCB boards into a magazine inline with the production line process. This unit is capable of handling one magazine that can easily be accessed from the front of the machine.

#### **STANDARD FEATURES**

- Electrical pusher for automatic PCBs insertion into magazine and into the line
- Magazine locking by upper and lower manual clamps
- User friendly touchscreen display for function and alarm message
- FIFO/LIFO/reject buffer/pass-through mode
- Programmable pitch control
- Antistatic edge belts
- Tower light display and alarm for machine status
- SMEMA interface
- Programmable motorized width adjust
- Adjustable conveyor speed
- ESD transparent windows
- ESD hinged cover with safety interlock

# GENIUS 1-CB

## Module specification

Length	1540 mm
Height	1705 mm
Width	1000 mm
Colour	RAL 9016
Air pressure	Not required

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Buffer capacity	50 PCBs (pitch 10 mm) per magazine
PCB loading time	Approx. 7 sec
Magazine changeover time	Approx. 20 sec
Conveyor speed	Max. 15 m/min adjustable

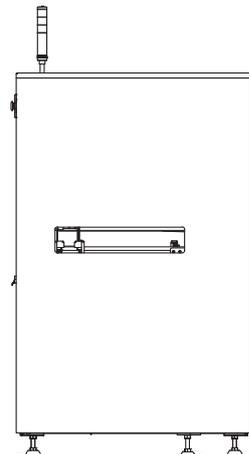
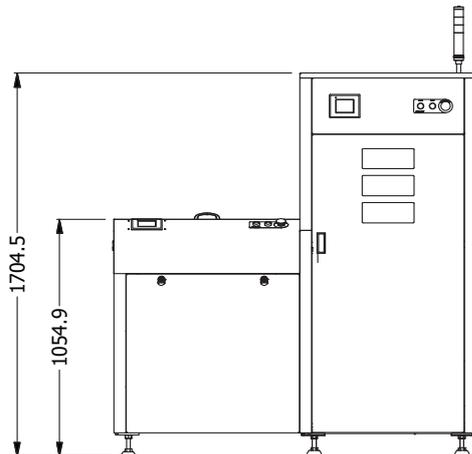
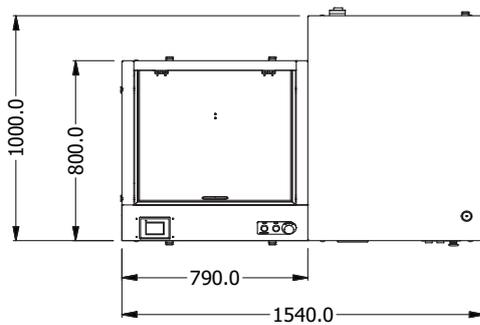
## Magazine handling

Buffer capacity	1 magazine
Min magazine size	CAB 701 / NIKKO NKAJ-0218R-G
Max magazine size	CAB 707 / NIKKO NKAJ-0546R-G
Magazine weight each (including PCBs)	Max 60 kg (132 lbs)

Other sizes and types available upon request.

## Optional

Network Width Adjustment



## PCB handling systems GENIUS 1-MB



### Multi magazine combo buffer pass-through

The GENIUS 1-MB Multi magazine buffer module is used to facilitate the buffering of PC boards into a magazine inline with the production line process. This unit is capable of handling five magazines that can easily be accessed from the front of the machine.

#### STANDARD FEATURES

- 5 magazine capacity for standard machine
- Electrical pusher for automatic PCBs insertion into magazine and into the line
- Rack locking by upper and lower pneumatic clamps
- User friendly touchscreen display for function and alarm message
- FIFO/LIFO/reject buffer/pass-through mode
- Programmable pitch control
- Programmable motorized width adjust
- Adjustable conveyor speed
- Antistatic edge belts
- Tower light display and alarm for machine status
- SMEMA interface
- ESD hinged cover with safety interlock

# GENIUS 1-MB

## Module specification

Length	1540 mm
Height	1705 mm
Width	2276 mm
Colour	RAL 9016
Air pressure	5 bar (72.5 psi)

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Buffer capacity	50 PCBs (pitch 10 mm) per magazine
PCB loading time	Approx. 7 sec
Magazine changeover time	Approx. 20 sec
Conveyor speed	Max. 15 m/min adjustable

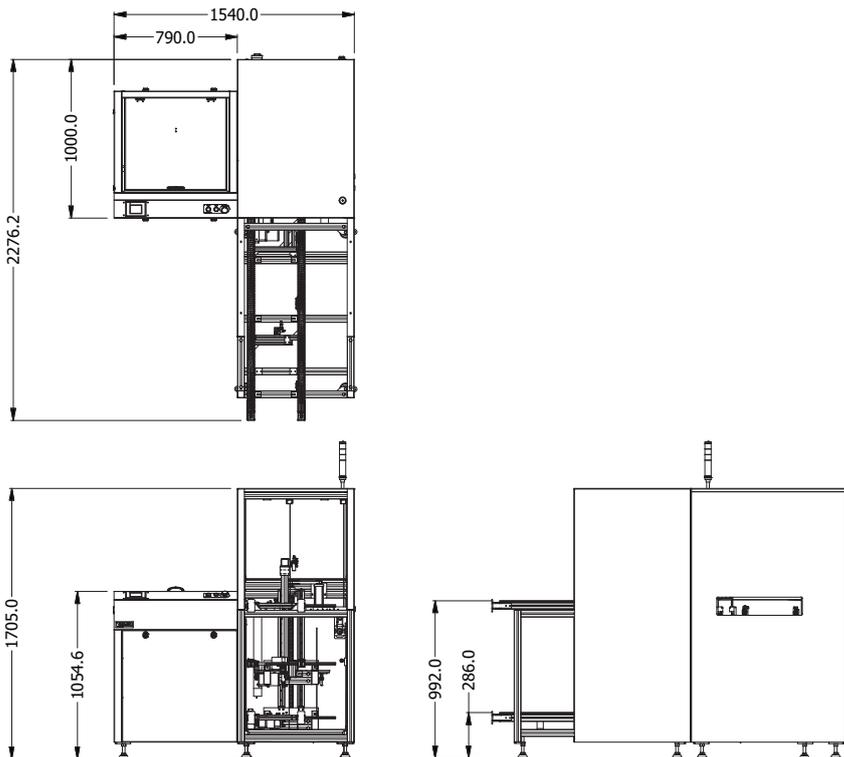
## Magazine handling

Buffer capacity	5 magazines
Min magazine size	CAB 701 / NIKKO NKAJ-0218R-G
Max magazine size	CAB 707 / NIKKO NKAJ-0546R-G
Magazine weight each (including PCBs)	Max 60 kg (132 lbs)

Other sizes and types available upon request.

## Optional

Magazine handling buffer capacity	3 magazines
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# GENIUS 1-LG



## Lift gate conveyor

The GENIUS 1-LG Lift gate is a cost effective solution for providing an opening in a production line. The operator can manually open the gate to gain access. The lifting action is assisted by a counterbalanced weight system with a dual gas strut assembly.

### **STANDARD FEATURES**

- Manual opening for operator pass-through
- Motorized jog width adjust
- Adjustable conveyor speed
- Counter balanced lift with gas strut
- Locking system when board on conveyor
- Wireless SMEMA interface

### **Optional**

- ESD sliding cover with safety interlock

# GENIUS 1-LG

## Module specification

Length	1500 mm
Height	1046 mm
Width	850 mm
Colour	RAL 9016
Air pressure	5 bar (72.5 psi)

## PCB Dimensions

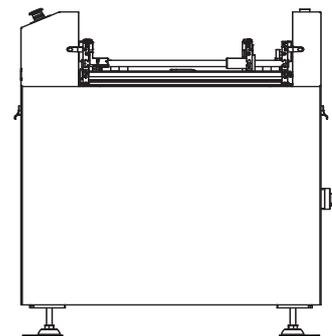
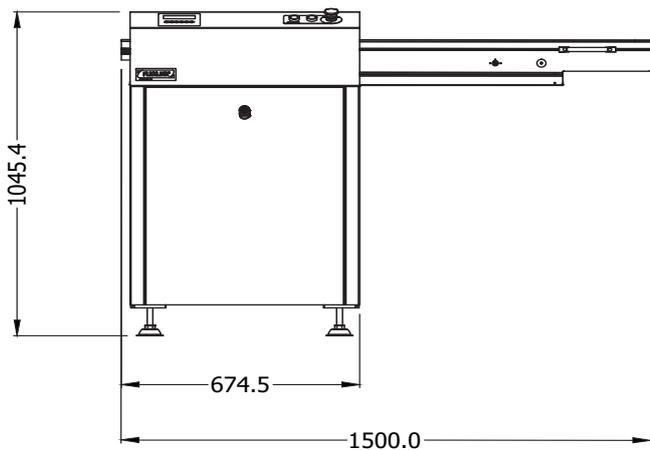
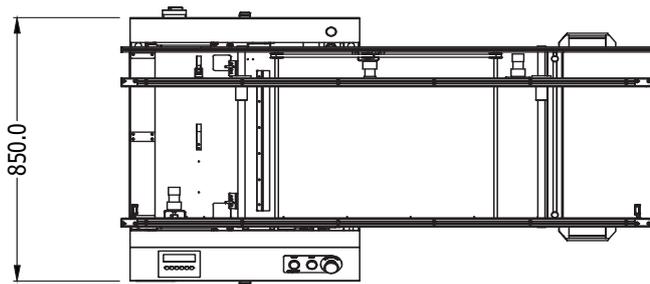
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Motorized jog width adjust
Conveyor speed	Max. 15 m/min adjustable

## Optional

Network Width Adjustment



# GENIUS 1-SG



## Shuttle gate

The GENIUS 1-SG Shuttle gate is used to form an aisle in a production line. The motorized controlled shuttle gate receives boards from the upstream process and extend to deliver boards to the downstream process. The units is equipped with a fail-safe safety system that continuously monitors the aisle traffic.

### **STANDARD FEATURES**

- Normally closed (retracted position)
- Servo controlled shuttle movement for smooth extension
- Programmable extension stroke
- Aisle detection sensors to guarantee safety
- Programmable motorized width adjust
- Adjustable conveyor speed
- Antistatic edge belts
- Wireless
- SMEMA interface
- ESD sliding covers with safety interlock
- Touch screen interface

# GENIUS 1-SG

## Module specification

Length	1037 mm (max. 1977 mm extended)
Height	1087 mm
Width	820 mm
Colour	RAL 9016

## PCB dimensions

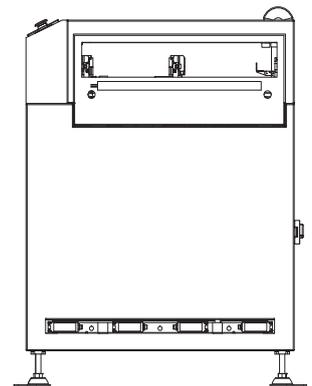
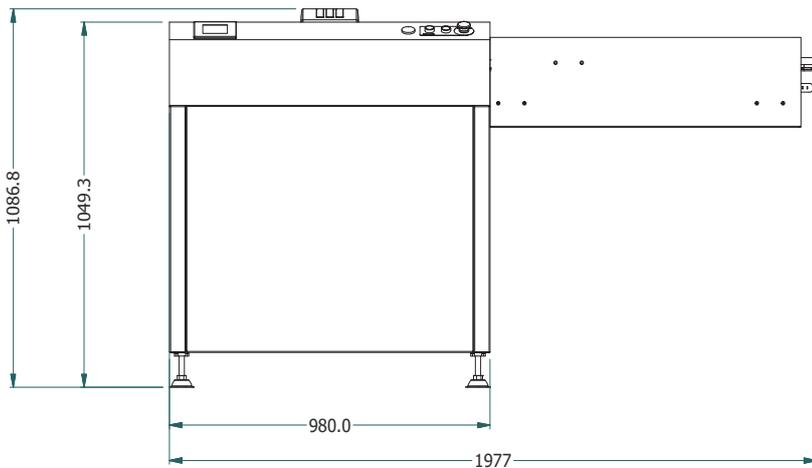
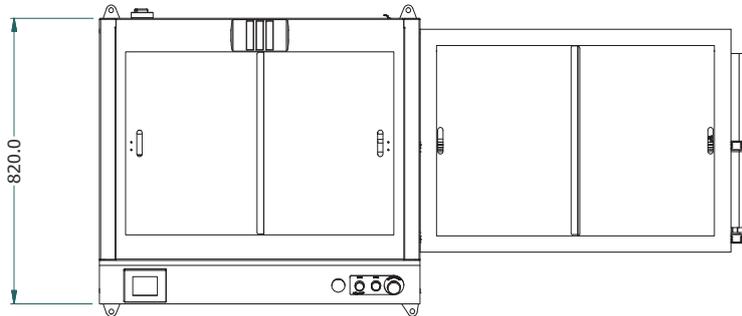
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Cycle time	Approx. 15 sec
Conveyor speed	Max. 15 m/min adjustable

## Optional

Network Width Adjustment



# GENIUS 1-TG



## Telescopic shuttle gate

The GENIUS 1-TG Telescopic shuttle gate is used to form an aisle in a production line. The motorized controlled shuttle will retract upon receiving open request. The unit is equipped with a fail-safe safety system that continuously monitors the aisle traffic when in retract position.

### STANDARD FEATURES

- Normally extended (closed position)
- Motorized driven movement for smooth extension
- Aisle detection sensors to guarantee safety
- Programmable motorized width adjust
- Adjustable conveyor speed
- Antistatic edge belts
- Wireless SMEMA interface
- ESD sliding covers with safety interlock
- Touch screen interface

# GENIUS 1-TG

## Module specification

Length	1056 mm (max. 1866 mm extended)
Height	1088 mm
Width	950 mm
Colour	RAL 9016

## PCB Dimensions

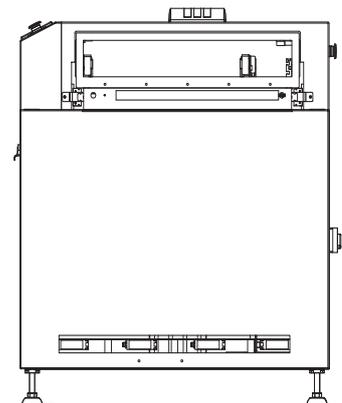
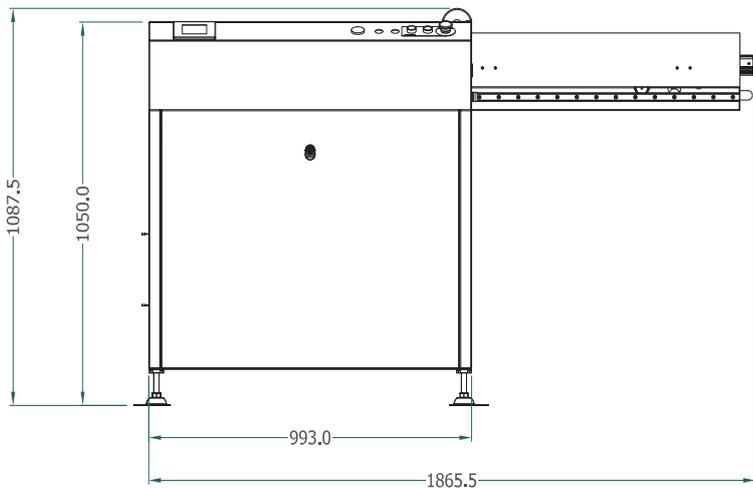
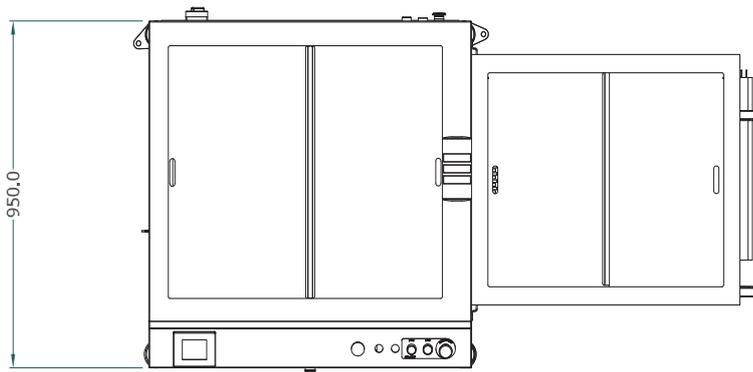
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Cycle time	Approx. 15 sec
Conveyor speed	Max. 15 m/min adjustable

## Optional

Network Width Adjustment



# GENIUS 1-SH



## Side shuttle

The GENIUS 1-SH Side shuttle is used to connect production lines that are offset from one another. The unit buffers one PC board and can deliver it to a multitude of downstream positions. The unit is servo controlled for high repeatability.

### STANDARD FEATURES

- Servo controlled rail-set movement for smooth and accurate positioning
- Programmable shuttle stroke
- Programmable motorized width adjust
- Adjustable conveyor speed
- Antistatic edge belts
- Good/bad board sorting
- SMEMA interface
- Touch screen interface
- ESD hinged cover with safety interlock

# GENIUS 1-SH

## Module specification

Length	Stroke + 920 mm (depending on stroke length) Min. stroke length 600 mm Max. stroke length 4 meters
Height	1050 mm
Width	730 mm
Colour	RAL 9016

## PCB handling

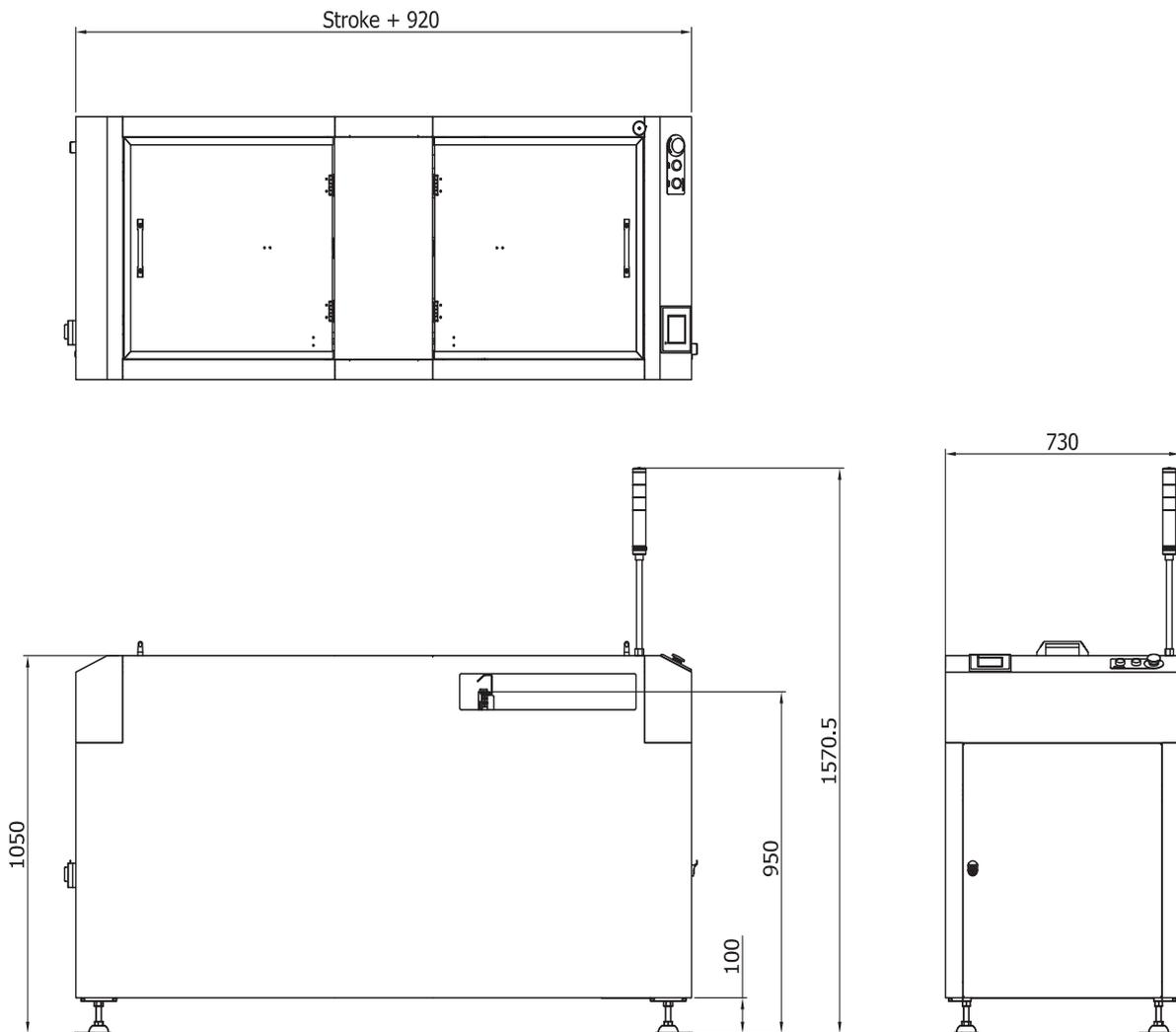
Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Cycle time	Approx. 7 sec
Conveyor speed	Max. 15 m/min adjustable

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## Optional

Network Width Adjustment



# GENIUS 1-TN



## Turn unit

The GENIUS 1-TN Turn unit is used when a production line requires PC boards to be routed in a different direction than the standard line flow. The unit uses a servo controlled high speed rotate mechanism to re-route PC boards within stringent tolerances. The module is able to achieve cycle times in less than 15 seconds per board. The unit incorporates a user friendly touch screen display.

### STANDARD FEATURES

- Clockwise and anticlockwise rotation from 0° to 90° and 270°
- Several layouts available
- Programmable motorized width adjust
- Adjustable conveyor speed
- Antistatic edge belts
- SMEMA interface
- 1 in 1 out configuration (OR)
- 1 in 2 out configuration (OR)
- 2 in 1 out configuration
- Good/bad board sorting
- Programmable configuration
- ESD hinged cover with safety interlock

# GENIUS 1-TN

## Module specification

Length	800 mm
Height	1149 mm
Width	800 mm

## PCB dimensions

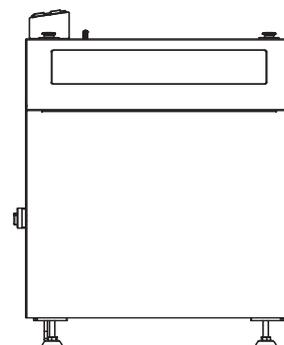
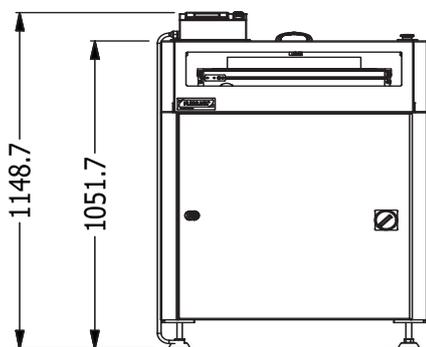
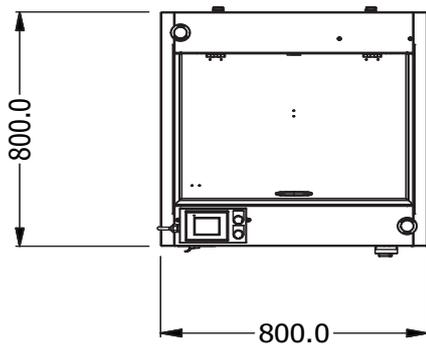
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Cycle time	Approx. 7 sec
Conveyor speed	Max. 15 m/min adjustable

## Optional

Network Width Adjustment



# GENIUS 1-IN



## Inverter

The GENIUS 1-IN Inverter is used to invert a PC board when required in top-side/bottom-side manufacturing. The unit uses a servo controlled high-speed rotate mechanism to invert the board with pinpoint accuracy. It is able to cradle the board during its rotate cycle by using a two-sided belt support system. The module is able to achieve cycle times of less than 15 seconds per board by utilizing its “flip-flip” software functions.

### STANDARD FEATURES

- Active selector/pass-through
- Programmable motorized width adjust
- Adjustable conveyor speed
- Servo controlled rotation unit without abrupt shocks
- SMEMA interface
- Antistatic edge belts
- Touch screen interface
- ESD hinged and sliding cover with safety interlock

# GENIUS 1-IN

## Module specification

Length	600 mm
Height	1338 mm
Width	953 mm
Colour	RAL 9016
Air Pressure	5 bar (72.5 psi)

## PCB dimensions

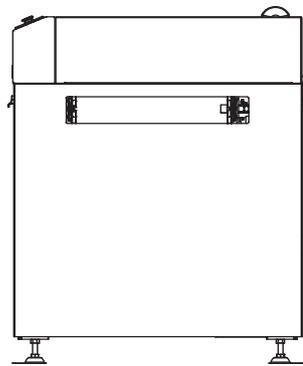
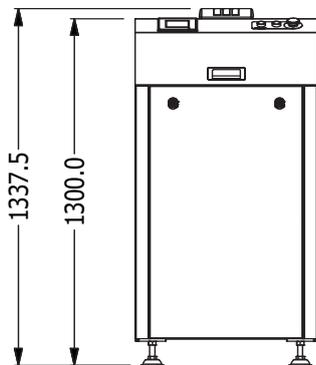
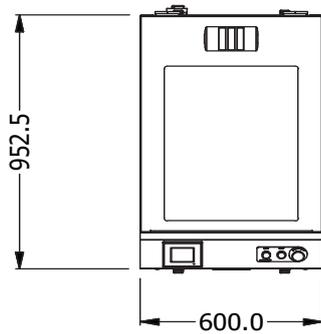
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Cycle time	Approx. 15 sec
Conveyor speed	Max. 15 m/min adjustable

## Optional

Network Width Adjustment



# GENIUS 1-BR



## Barrel Roll Inverter

The GENIUS 1-BR Barrel Roll Inverter is used when leading edge is required. The unit uses a servo controlled high-speed barrel roll mechanism to invert the board and a servo drive barrel shuttle for fixed rail matching with pinpoint accuracy. It can cradle the board during its rotate cycle by using a two-sided belt support system. The module can achieve cycle times of less than 15 seconds per board.

### STANDARD FEATURES

- Servo controlled rotation unit with teachable input and output locations
- Pass through mode setting for standard conveyor operations
- Programmable motorized width adjust
- Adjustable conveyor speed
- Antistatic edge belt
- SMEMA interface
- ESD covers with safety interlock
- Touch screen interface
- ESD safe cover with safety interlock
- Patent Pending

# GENIUS 1-BR

## Module specification

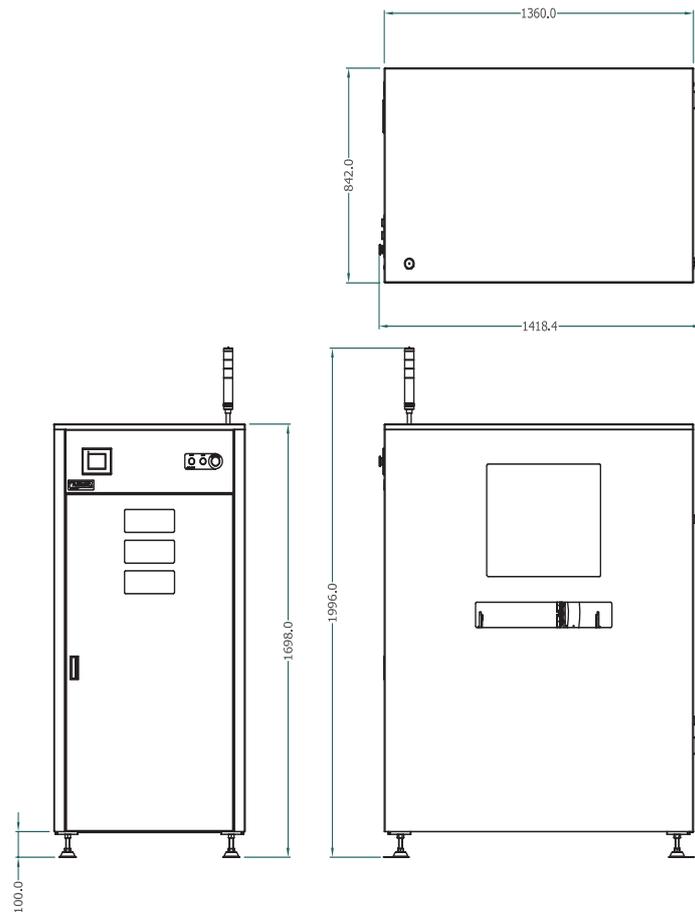
Length	842 mm
Height	1700 mm
Width	1360 mm
Colour	RAL 9016
Air pressure	Not Required

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Cycle time	Approx. 15 sec
Conveyor speed	15 m/min adjustable



# GENIUS 1-RK



## Restacker

The GENIUS 1-RK Restacker is used after a laser marker module in a production line. The module can hold up to a 200 mm (7.8") stack of unpopulated PC boards at a weight of 15 kg (33 lbs). By utilizing a technically advanced stacking mechanism, this unit is able to achieve cycle times of less than 6 seconds per board.

### STANDARD FEATURES

- Stack full sensor
- Uninterrupted loading
- Motorized jog width adjust
- Adjustable conveyor speed
- Antistatic edge belts
- SMEMA interface

# GENIUS 1-RK

## Module specification

Length	600 mm
Height	1200 mm
Width	800 mm
Colour	RAL 9016
Air pressure	5 bar (72.5 psi)

## PCB dimensions

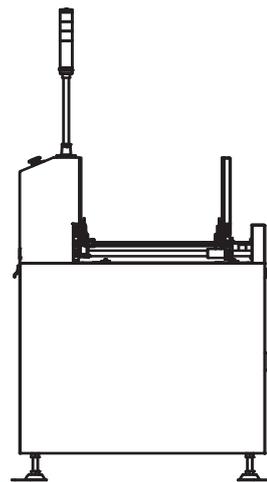
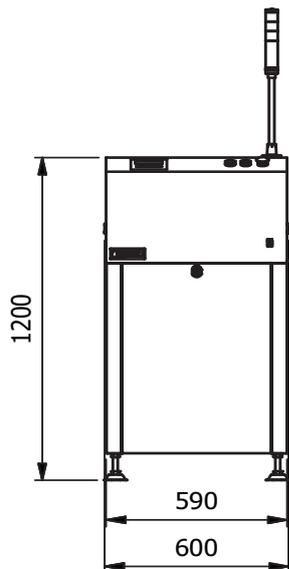
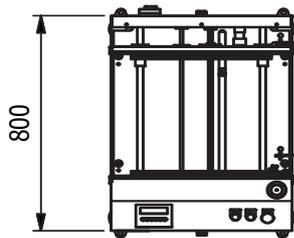
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Motorized jog width adjust
Cycle time	Approx. 10 sec
Conveyor speed	Max. 15 m/min adjustable

## Optional

Network Width Adjustment



# GENIUS 1-SU



## Single magazine line unloader

The GENIUS 1-SU Single magazine line unloader is used to facilitate the buffering of PCB boards into a magazine at the end of a production line. This unit is capable of handling one magazine that can easily be accessed through the front of the machine. The unloader is a small, compact, price competitive module that is used in low volume production environments.

### STANDARD FEATURES

- User friendly touch screen display for function and alarm message
- Magazine locking by upper and lower manual clamps
- Programmable pitch setting
- Electrical pusher for automatic PCB insertion
- Programmable motorized width adjust
- Adjustable conveyor speed
- Antistatic edge belts
- Tower light display and alarm for machine status
- SMEMA interface
- ESD transparent windows
- ESD hinged cover with safety interlock

# GENIUS 1-SU

## Module specification

Length	1345 mm
Height	1705 mm
Width	1000 mm
Colour	RAL 9016
Air pressure	Not required

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belt
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Buffer capacity	50 PCBs (pitch 10 mm) per magazine
PCB loading time	Approx. 7 sec
Conveyor speed	Max. 15 m/min. adjustable

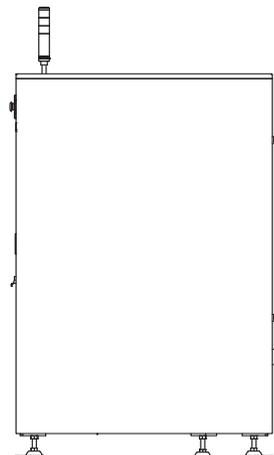
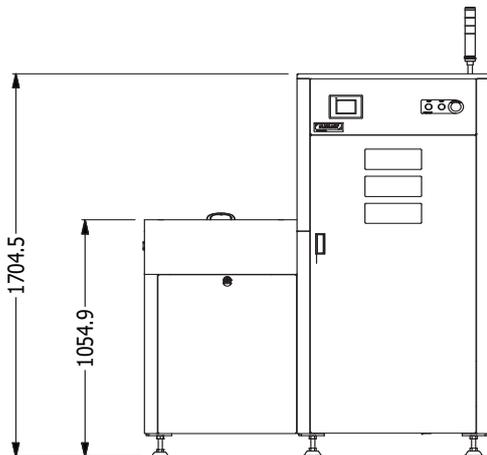
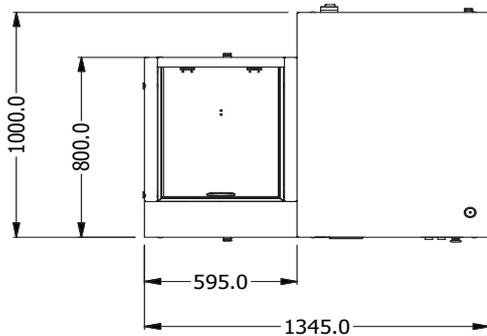
## Magazine handling

Buffer capacity	1 magazine
Min magazine size	CAB 701 / NIKKO NKAJ-0218R-G
Max magazine size	CAB 707 / NIKKO NKAJ-0546R-G
Magazine weight each (including PCBs)	Max 60 kg (132 lbs)

Other sizes and types available upon request.

## Optional

Network Width Adjustment



# GENIUS 1-MU



## Multi magazine line unloader

The GENIUS 1-MU Multi magazine line unloader is used to facilitate the buffering of PC boards into a magazine at the end of a production line. The unit is capable of handling five magazines that can easily be accessed from the side of the machine. The module is a cost effective way of handling high volume applications that require increased capacity storage.

### STANDARD FEATURES

- 5 magazine capacity for standard machine
- Electrical pusher to slide PCBs automatically into the magazine
- Rack locking by upper and lower pneumatic clamps
- Programmable pitch setting
- User friendly touch screen display for function and alarm message
- Tower light display and alarm for machine status
- SMEMA interface
- ESD transparent windows
- Programmable motorized width adjust
- Adjustable conveyor speed
- ESD hinged cover with interlock

# GENIUS 1-MU

## Module specification

Length	2653 mm
Height	1700 mm
Width	1000 mm
Colour	RAL 9016
Air pressure	5 bar (72,5 psi)

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Buffer capacity	50 PCBs (pitch 10 mm) per magazine
PCB loading time	Approx. 7 sec
Magazine changeover time	Approx. 20 sec
Conveyor speed	Max. 15 m/min adjustable

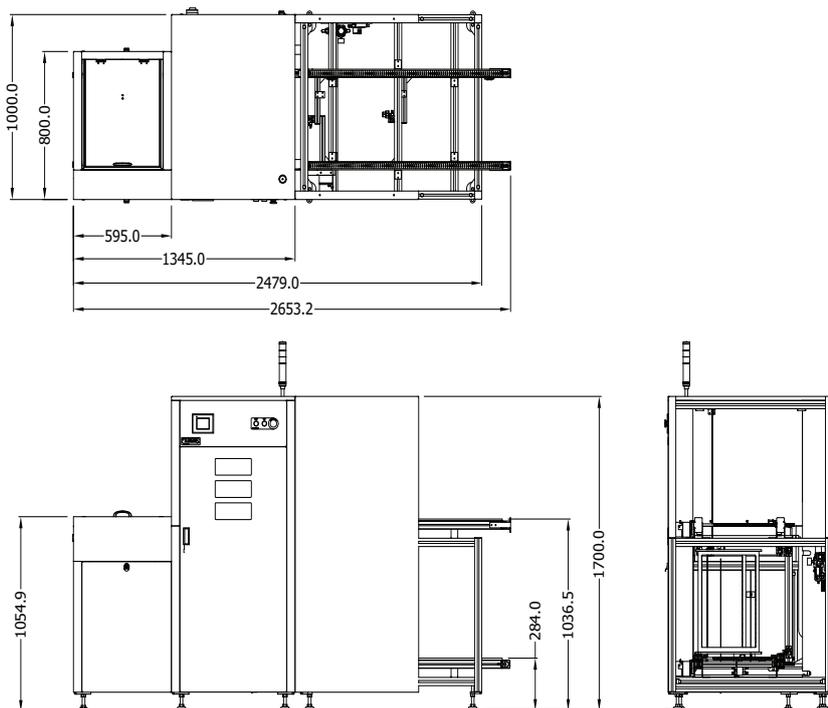
## Magazine handling

Buffer capacity	5 magazines
Min magazine size	CAB 701 / NIKKO NKAJ-0218R-G
Max magazine size	CAB 707 / NIKKO NKAJ-0546R-G
Magazine weight each (including PCBs)	Max 60 kg (132 lbs)

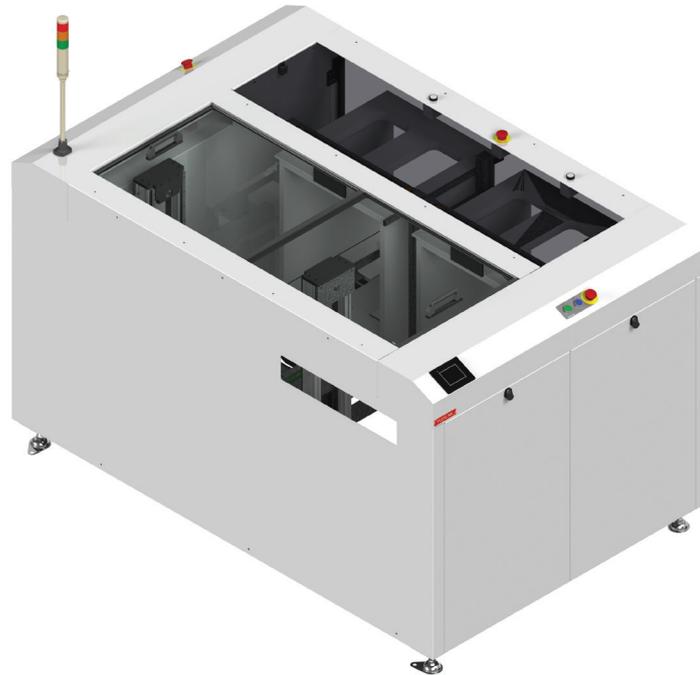
Other sizes and types available upon request.

## Optional

Magazine handling buffer capacity	3 magazines
Network Width Adjustment	



# GENIUS 1-DU



## Dual magazine line unloader

The GENIUS 1-DU Dual magazine line unloader is used when PCB boards need to be buffered into magazines at the end of a production line. This unit is capable of handling two magazines that can easily be accessed from the side of the machine. The module is a cost effective way of handling low to medium high-volume applications that require increased capacity storage. This unit can also support good/no good reject software used on AOI application. All failed PCB's would transfer to a no good magazine.

### STANDARD FEATURES

- Programmable motorized width adjust
- Adjustable conveyor speed
- User friendly touch screen display for function and alarm message
- Dual servo drive for PCB positioning into magazine slot
- Electrical pusher to slide PCBs automatically into the magazine
- SMEMA interface
- ESD sliding cover with safety interlock
- Good/bad board sorting
- Configurable pitch selection
- Tower light display and alarm for machine status
- Safety light curtain sensor at magazine load/unload area

# GENIUS 1-DU

## Module specification

Length	1300 mm
Height	1205 mm
Width	2000 mm
Colour	RAL 9016

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Buffer capacity	50 PCBs (pitch 10mm) per magazine
Conveyor speed	Max 15 m/min adjustable

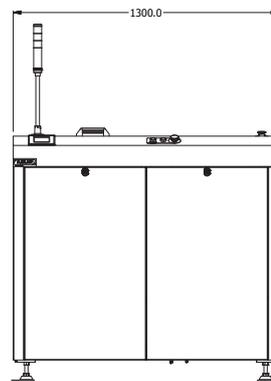
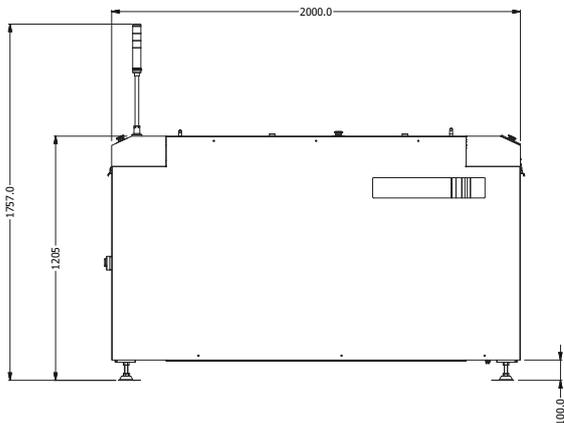
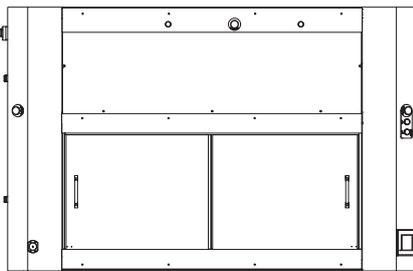
## Magazine handling

Buffer capacity	2 magazines
Min magazine size	CAB 701 / NIKKO NKAJ-0218R-G
Max magazine size	CAB 707 / NIKKO NKAJ-0546R-G
Magazine weight each (including PCBs)	Max 60 kg (132 lbs)

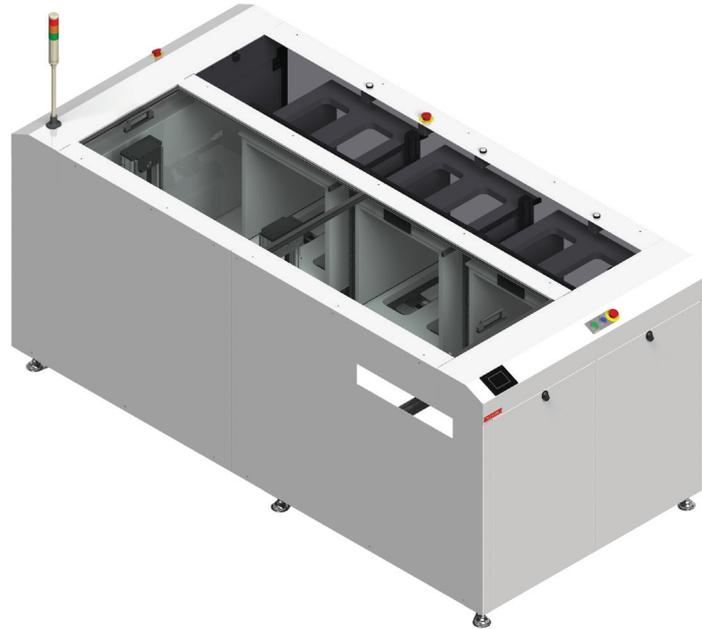
Other sizes and types available upon request.

## Optional

Network Width Adjustment  
AMR Interface



# GENIUS 1-TU



## Triple magazine line unloader

The GENIUS 1-TU Triple magazine line unloader is used when PCB boards from the production line are required to be loaded into magazines. This unit is capable of handling three magazines that can easily be accessed from the side of the machine. The module is a cost effective way of handling high-volume applications that require increased capacity storage. This unit can also support good/no good reject software used on SPI or AOI applications. All failed PCBs would transfer to a no good magazine.

### STANDARD FEATURES

- Programmable motorized width adjust
- Adjustable conveyor speed
- Pass/fail sorting after test systems
- User friendly touch screen display for function and alarm message
- Dual servo drive for PCB positioning into magazine slot
- Electrical pusher to slide PCBs automatically into the magazine
- SMEMA interface
- Good/bad board sorting
- ESD sliding cover with safety interlock
- Configurable pitch selection
- Tower light display and alarm for machine status
- Safety light curtain sensor at magazine load/unload area

# GENIUS 1-TU

## Module specification

Length	1300 mm
Height	1205 mm
Width	2700 mm
Colour	RAL 9016

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Conveyor speed	Max. 15 m/min adjustable
Buffer capacity	50 PCBs (pitch 10mm) per magazine

## PCB Dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## Magazine handling

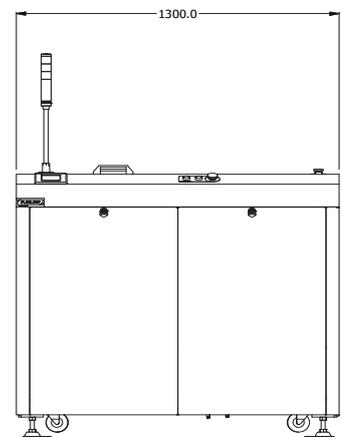
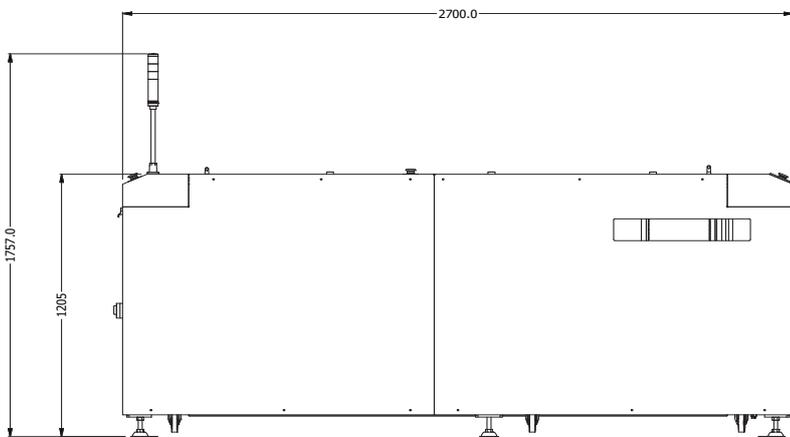
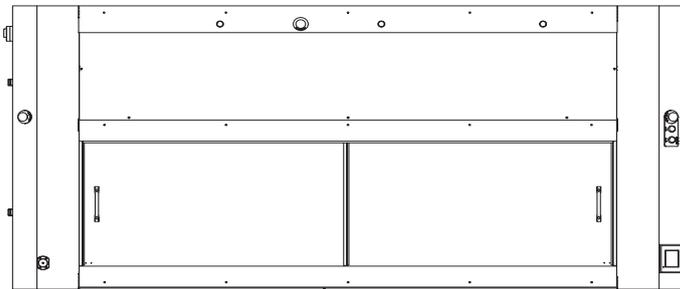
Buffer capacity	3 Magazines
Min magazine size	CAB 701 / NIKKO NKAJ-0218R-G
Max magazine size	CAB 707 / NIKKO NKAJ-0546R-G

Magazine weight (including PCBs) Max 60 kg (132 lbs)

Other sizes and types available upon request.

## Optional

Network Width Adjustment  
AMR Interface



# GENIUS 1-EL



## Elevator

The GENIUS 1-EL Elevator is used when an elevation or transfer angle change is required in a production line. The unit is typically used before and after a wave solder machine. The elevator uses a servo motor actuated guided slide assembly to accurately change elevations or transfer angles.

### STANDARD FEATURES

- Servo controlled lift motion
- In/out position can be selected at time of order (min 300 mm to 950 mm)
- Programmable motorized width adjust
- Adjustable conveyor speed
- Receive down line SMEMA inhibit signal
- SMEMA compatible
- ESD hinged cover with safety interlock

### Optional

- Wave exit platform
- Heavy duty belts and motors for pallet transfer
- Stepper motor for speed matching

# GENIUS 1-EL

## Module specification

Length	600 mm
Height	Depending on stroke height
Width	1002 mm
Colour	RAL 9016
Air pressure	5 bar (72.5 psi)

## PCB Dimensions

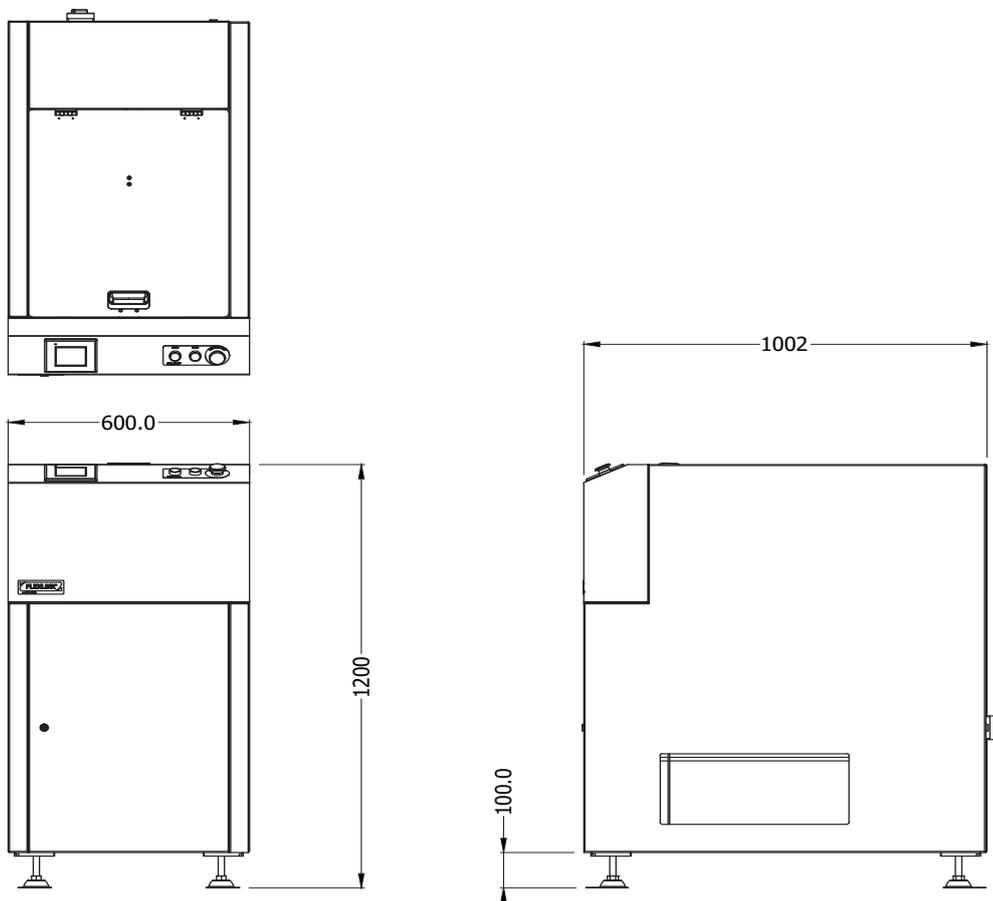
Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Conveyor speed	Max 15 m/min adjustable

## Optional

Network Width Adjustment



# GENIUS 1-CC



## Chain conveyor

1-CC Roller Chain Conveyor is a modular transport solution that can be configured to meet specific customer requirements. The system utilizes a free spinning ESD safe roller design that reduces back pressure while products are being queued. The Roller Chain Conveyor is a cost effective solution for buffering multiple products over extended length areas. The Roller Chain Conveyor can transport both PC boards and pallets. The module can also be fitted with a full array of workstation options, which allow the module to function as an ergonomic workstation.

### STANDARD FEATURES

- ESD safe free spinning chains roller
- Durable ball-bearing end idlers
- Fully captured chain returns
- Tooled width adjust
- Non PLC version, speed control only

# GENIUS 1-CC

## Module specification

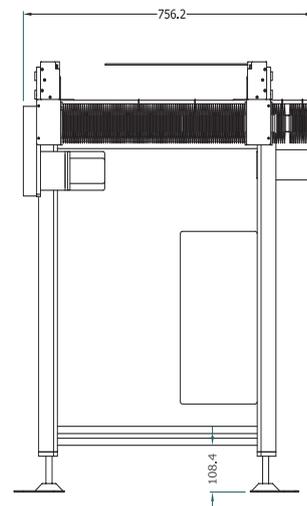
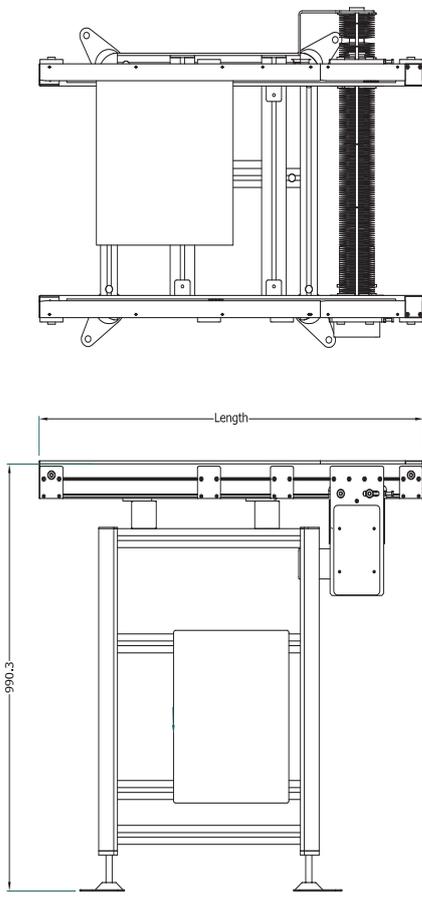
Machine dimensions (LxWxH):  
 Dimensions based on application

## PCB handling

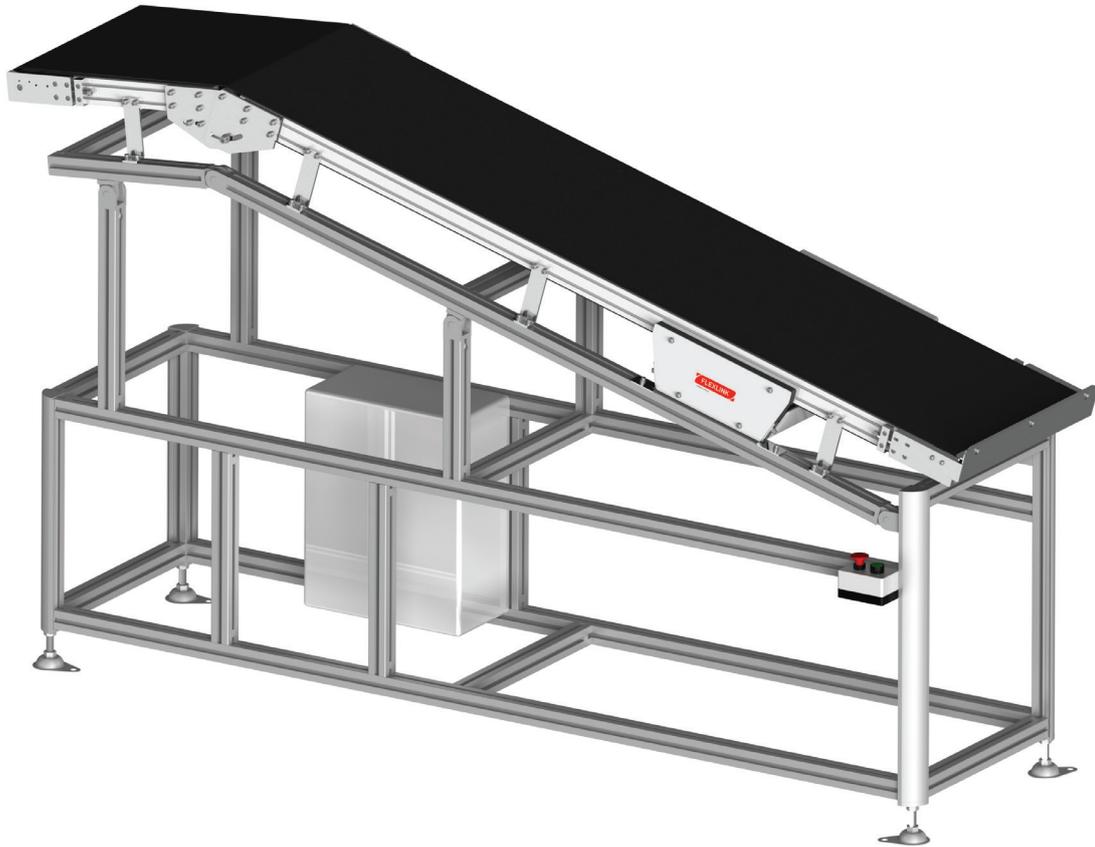
Transport system	Edge roller chain
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Cycle time	Depend on length and speed
Conveyor speed	25-150 mm/s (1-6"/s)

## Optional

- Network Width Adjustment
- Precision hand crank width adjust
- Push button style jog width adjust
- Protective safety covers, both ESD and non ESD
- LED signal tower with alarm
- PLC Controlled
- SMEMA Compatible
- Pneumatic actuated board stopper and singulator
- Available module lengths from 600 mm up to 5000 mm
- Consult factory for available chain options
- Consult factory for additional options not listed



## GENIUS 1-FC



### Flat belt conveyor

The GENIUS 1-FC Flat Belt Conveyor is a modular transport solution that can be configured to meet specific customer requirements. The system utilizes an ESD safe belt that can transport both PC boards and pallets. This module can be used to incline or decline products to and from Wave Solder systems. The module can also be fitted with a full array of workstation options, which allows the module to function as an ergonomic workstation.

#### **STANDARD FEATURES**

- ESD safe belt design, 80 °C (176 °F)
- Durable ball-bearing end idlers
- Adjustable belt tension feature compensates for wear and ambient conditions
- Non PLC version, speed control only
- Non Incline Horizontal Conveyor Available

# GENIUS 1-FC

## Module specification

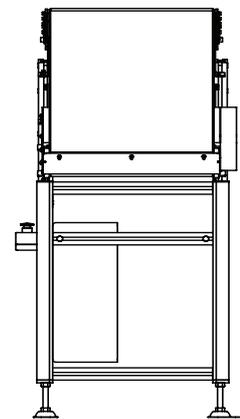
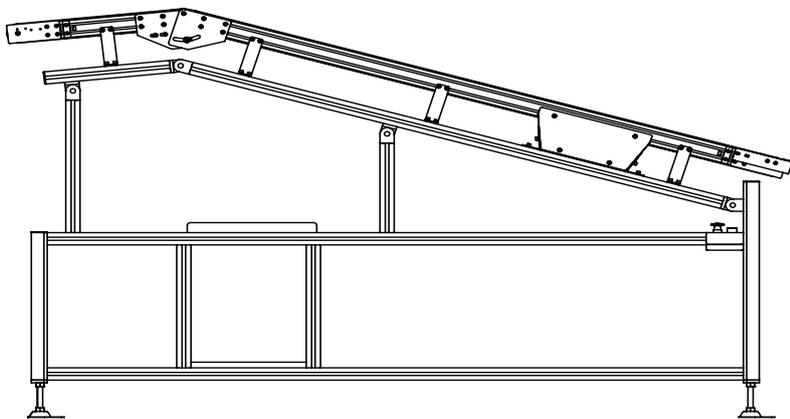
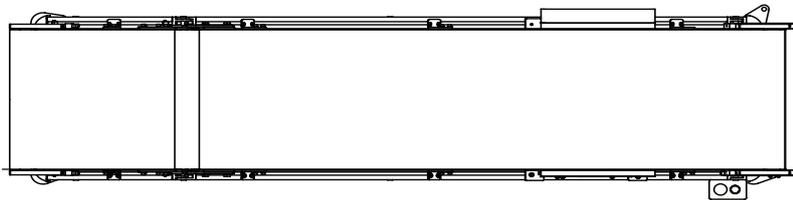
Machine dimensions (L×W×H):  
Dimensions based on application

## PCB handling

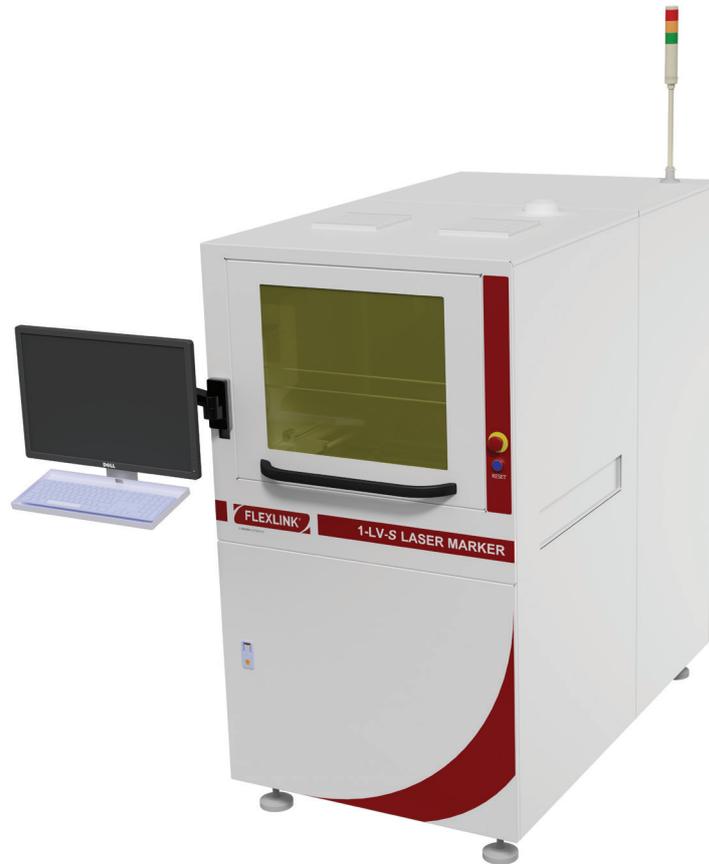
Transport system	ESD belt
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Cycle time	dependent on length and speed
Conveyor speed	25–150 mm/s (1–6"/s)

## Optional

- Incline/decline sections
- Cooling fans
- LED signal tower with alarm
- PLC Controlled
- SMEMA Compatible
- Available module lengths from 600 mm up to 4000 mm
- Available belt widths: 300 mm, 400 mm, 500 mm, 600 mm
- Consult factory for non-standard belt widths
- High temperature ESD belts up to 120 °C (248 °F)
- Consult factory for additional options not listed



# GENIUS 1-LV-S



## Laser marker single-sided marking

The GENIUS 1-LV-S Laser marker is used in applications where products need an identification mark for tracking or recognition. The laser cell can mark on all types of non-metallic surfaces including plastic and FR4 PC board. The key feature for laser marking is that the mark is permanent and consumable costs are low.

### STANDARD FEATURES

- Welded frame with class 1 safety covers

#### *Laser head*

- 30 watt CO<sub>2</sub> laser marker
- Suitable for marking most PCB types
- Marking field of 120 x 120 mm (4.72" x 4.72")
- Software adjustable Z-axis focus height of  $\pm 21$  mm
- Factory server integration software

#### *Edge belt*

- Antistatic edge belts
- Programmable motorized width adjust
- Adjustable conveyor speed

#### *Machine*

- PC based operation system running Windows 11
- 24" color touchscreen monitor
- Pneumatically actuated board stop and locate system attached to laser head
- Programmable laser marking position using ODB++ with live view
- Dual camera vision system
- 100 mm connection to external vacuum system (not included)
- CE compliance

# GENIUS 1-LV-S

## Module specification

Length	920 mm
Height	1750 mm
Width	1600 mm
Colour	RAL 9016
Marking size	508×460 mm (20"×18")
Air pressure	5 bar (72.5 psi)

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## High resolution camera

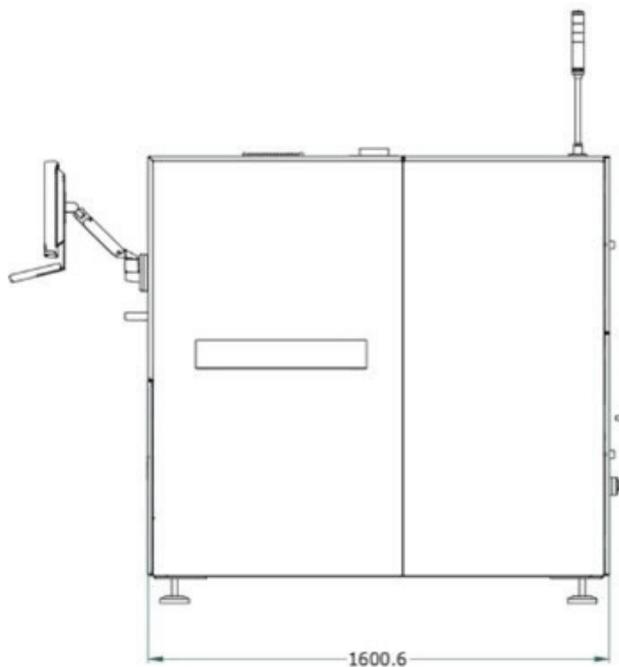
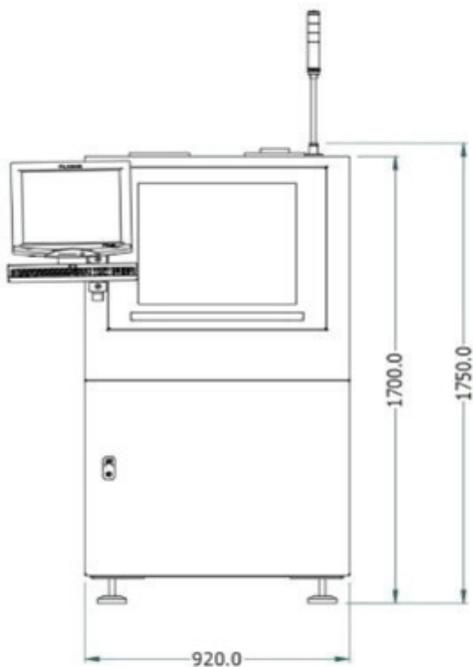
Resolution	2 Megapixel
Field of view (FOV)	35mm
Minimum 2D Cell size	0.09 mm

## PCB handling

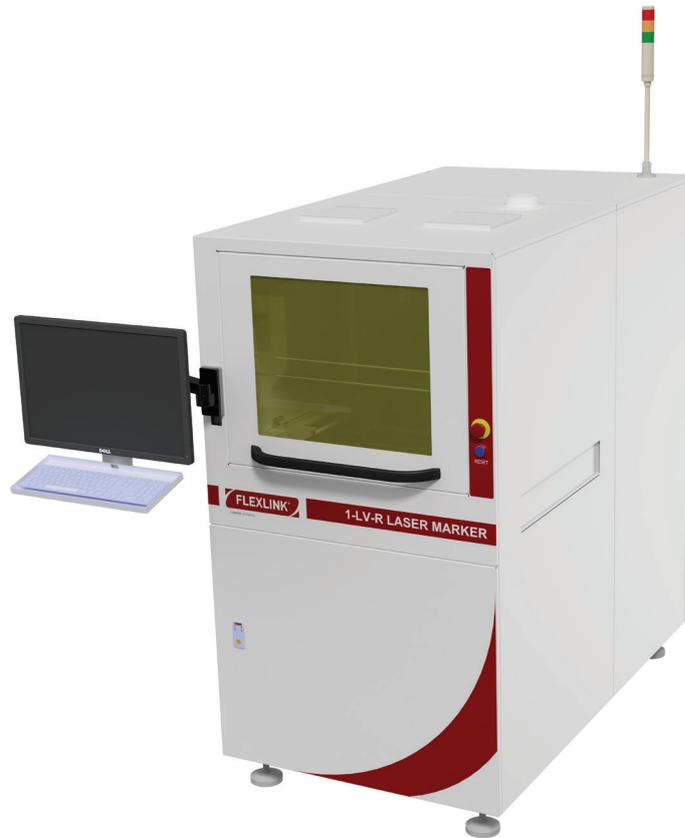
Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Conveyor speed	Max 15 m/min adjustable

## Optional

Custom factory server integration software



# GENIUS 1-LV-R



## Laser marker inverter

The GENIUS 1-LV-R Laser marker is used in applications where PCB's need identification marks for tracking or recognition on both sides. The 1-LV-R includes an inverter in order to flip the PCB from one side to the other. The laser cell can mark on all types of nonmetallic surfaces including plastic and FR4 PC board. The mark is permanent and consumable costs are low.

### STANDARD FEATURES

- Welded frame with Class 1 safety covers

#### Laser head

- 30 watt CO<sub>2</sub> laser marker
- Suitable for marking most PCB types
- Marking field of 120x120 mm (4.72" x 4.72")
- Software adjustable Z-axis focus height of ±21 mm
- Factory server integration software

#### Edge belt

- Antistatic edge belts
- Programmable motorized width adjust
- Adjustable conveyor speed

#### Machine

- PC based operation system running Windows 11
- 24" color touchscreen monitor
- Pneumatically actuated board stop and locate system attached to laser head
- Programmable laser marking position using ODB++ with live view
- Dual camera vision system
- 100 mm connection to external vacuum system (not included)
- CE compliance

# GENIUS 1-LV-R

## Module specification

Length	920 mm
Height	1750 mm
Width	1600 mm
Colour	RAL 9016
Marking size	508x508 mm
Air pressure	5 bar (72.5 psi)

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## High resolution camera

Resolution	2 Megapixel
Field of view (FOV)	35mm
Minimum 2D Cell size	0.09mm

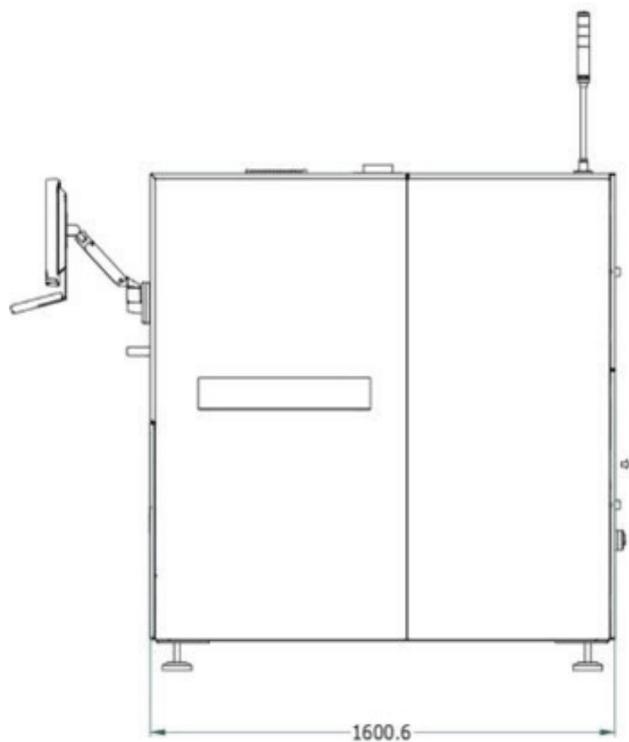
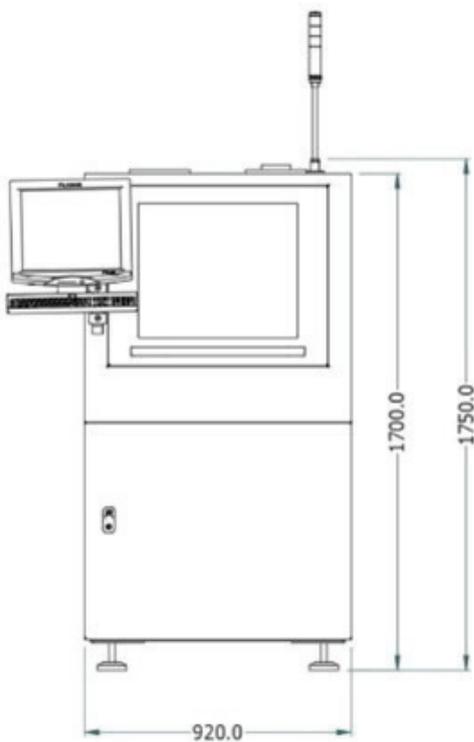
## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Conveyor speed	Max 15 m/min adjustable

## Optional

Custom factory server integration software

Network Width Adjustment



# GENIUS 1-LD



## Laser Marker dual head

The new GENIUS 1-LD is a high-speed marker, incorporating both a dual laser head as well as multiple cameras for reduced cycle time. The board is positioned vertically inside the module allowing the two laser heads to mark both sides of a PCB simultaneously and minimize dust issues. This solution improves the quality of the mark and the process yield, which has substantial impact on the total cost. The laser cell can mark on all types of non-metallic surfaces including plastic and FR4 PC Board. The key feature for laser marking is that the mark is permanent and consumable costs are low.

### STANDARD FEATURES

- 30 Watt CO2 Laser Marker suitable for most-types of PCBs
- Class 4 Laser, 10.6 $\mu$ m wavelength
- Marking field of 120mm x 120mm (4.72in x 4.72in)
- Software adjustable Z-Axis focus height of  $\pm 21$ mm ( $\pm 0.83$ in); TOC = 0mm (0in)
- Guide laser for setup of marking area – Class 2 Laser, 655nm, wavelength
- Laser marking position repeatability of  $\pm 0.1$ mm ( $\pm 0.004$ in)
- Marking resolution of 2 $\mu$ m
- Laser scan speed capable of 12000mm per-second max.
- Character size ranging from 0.2mm – 120mm (0.008in – 4.72in)
- Font: KEYENCE original font / User font / true-type font
- Barcode: CODE39 / ITF / 2of5/NW7 (COD-ABAR) / JAN / CODE128
- 2D-Matrix Code: QR Code / Micro QR Code / Data Matrix (ECC200)
- Logo Image: Custom font, logo, (CAD) data, BMP / JPEG / PNG / TIF
- Interface via RS-232C / RS-422A / USB2.0
- Cooling method: Forced air cooling
- Laser tube lifetime expectancy 8-10 years
- Custom factory server integration software

# GENIUS 1-LD

## Camera Verification System

- Keyence barrel style camera
- Movement controlled by two servos for X and Y movement
- Fiducial recognition with board position correction
- Optical Character recognition verification
- 1D and 2D barcode verification

## Edge belt rail set used for board transport

- Antistatic edge belts
- Programmable motorized width adjust
- Adjustable conveyor speed
- Pneumatic actuated board stop and locate system

## Module specification

Length	1100 mm
Height	1706 mm
Width	1751 mm
Colour	RAL 9016
Marking size	500 x 500 mm
Air pressure	5 bar (72.5 psi)
Voltage	230 V, 3 Phase
Amperage	30A

## PCB dimensions

Board length	75 - 508 mm (3" - 20")
Board width	50 - 508 mm (2" - 20")
Board thickness	0.6 - 6 mm

## High Resolution Camera

Resolution	2 Megapixel
Field of view (FOV)	33 mm
Minimum 2D Cell size	0.083 mm

## Optional

Custom factory server integration software

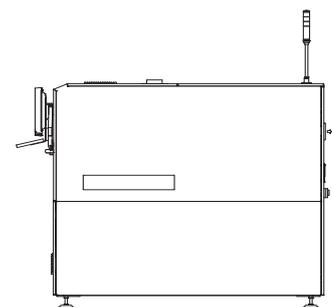
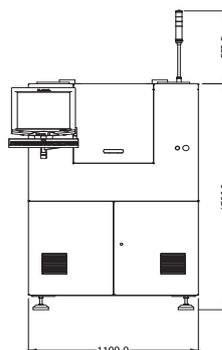
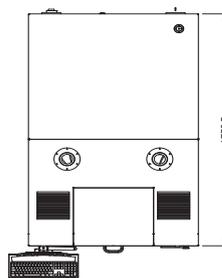
Network Width Adjustment

## Laser Marker Machine

- PC based control system
- 21 Inch LCD monitor with keyboard and mouse on adjustable mount
- Programmable laser marker positions achieving total marking area of 457mm x 508mm
- Welded frame design with Class 1 safety covers
- 100mm connection available for connection to external vacuum/fume extraction system
  - o Not included in scope
  - o 400cfm required for proper operation and longevity
- Cooling fans integrated into laser for air flow
- Interior camera for viewing the operation during marking

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Conveyor speed	Max. 15 m/min adjustable



# GENIUS 1-BC



## Brush cleaner

The GENIUS 1-BC Brush Cleaner has been specifically designed to remove contamination from bare boards before solder paste, adhesive application and after laser marking. The machine uses unique technology ensures high performance in the removal of foreign matter. 1-BC equipped with lateral oscillation and conductive brush provides customers with clean factories and production free from foreign matter problems by solving dust issues.

### STANDARD FEATURES

- Standard cleaning width 460 mm
- Single sided cleaning mode for top side cleaning
- Include internal dust collector
- Programmable motorized width adjust
- Adjustable conveyor speed
- Antistatic edge belt
- SMEMA interface
- ESD covers with safety interlock
- Touch screen interface

# GENIUS 1-BC

## Module specification

Length	510 mm
Height	1500 mm
Width	1000 mm
Colour	RAL 9016

## PCB dimensions

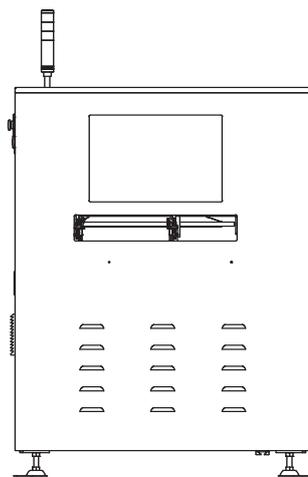
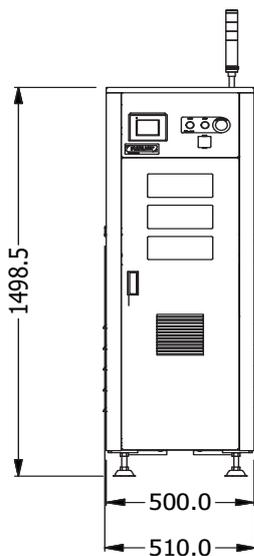
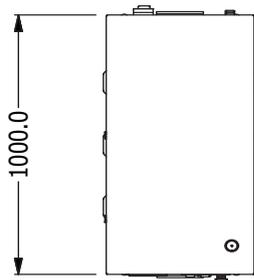
Board length	75 - 508 mm (3" - 20")
Board width	50 - 460 mm (2" - 18")
Board thickness	0.6 - 6 mm

## PCB handling

Transport system	Antistatic edge belts
Transport height	953 ±50 mm
Transport direction	Left to right flow (Right to left flow optional)
Width adjustment	Programmable motorized width adjust
Cycle time	Approx. 7 sec
Conveyor speed	Max. 15 m/min adjustable

## Optional

- M size (Max PCB width 250 mm)
- Air ionizer
- Dual sided top and bottom brush
- Network Width Adjustment



# Coesia Group in the world



COESIA is a group of innovation-based industrial and packaging solutions companies operating globally, headquartered in Bologna, Italy.

Coesia's companies are leaders in the sectors of:

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- **High-performance transmissions**

Coesia's customers are leading players in a broad range of industries, including Consumer Goods, Tobacco, Healthcare, Aerospace, Racing & Automotive and Electronics.

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