

NUTEK™

PCB HANDLING EQUIPMENT
MADE IN SINGAPORE

CORE BUSINESS

Nutek Private Limited (Nutek), a local enterprise incorporated in 1989, conceptualises, designs and manufactures automated production systems to customer specifications. Nutek is highly regarded for its world-class quality products, produced with the flexibility and agility demanded by its customer all over the world.

Our core business includes the following:

1. PCB Handling Equipment for PCBA Industry
2. Material Handling System for Semicon Industry
3. Original Equipment Manufacturing (OEM) for Capital Equipment Manufacturers
4. Original Design Manufacturing (ODM) for other brand names

COMPANY POLICY

Nutek is dedicated to making quality products that help our clients operate more efficiently and effectively. Nutek is guided by the principles of fairness to our suppliers, associates, clients and employees, and helping them achieve to the best of their potential.



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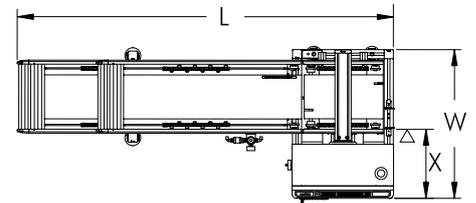
Applicable PCB General Specifications

	PCB Length	PCB Width
M Size	80 - 330 mm	70 - 250 mm
L Size	80 - 457 mm	70 - 407 mm
PCB Weight	3 kg max.	
PCB Edge Clearance	3 mm min.	
PCB Thickness	0.1 - 4 mm (unless otherwise specify)	
Components Height	Top: 30 mm	Bottom: 30 mm
PCB Warpage	0.5% of PCB width max.	

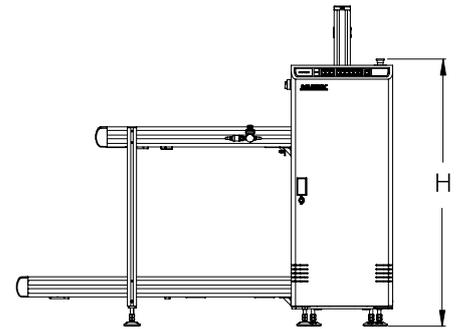
AUTOMATIC LOADER/UNLOADER



- * Magazine not included
- * Pusher Conveyor not included.
Please refer to page 4 for details
- * Tower light (optional)



Plan View



Front View

Legend
△ : Fixed Point

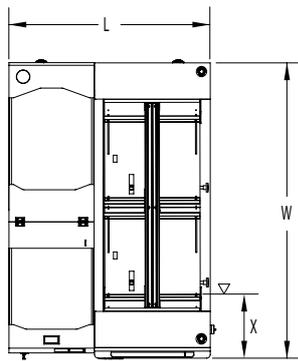
Features

- ❖ Sturdy and stable design
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Pneumatic clamps provided for magazine alignment
- ❖ Pneumatic pusher's pressure regulated
- ❖ High throughput with short magazine change-over time
- ❖ SMEMA compatible

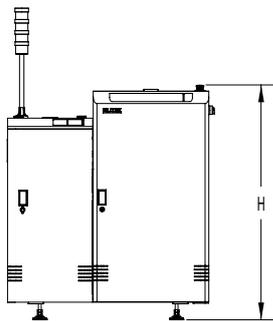
SPECIFICATIONS	
Description	This unit is used for loading or unloading of PCBs.
PCB Magazine	Specify upon order
No. of Magazines	Upper Conveyor: 2 magazines Lower Conveyor: 3 magazines
PCB Loading Time	Average 6 seconds or specify
Magazine Change-over Time	Average 30 seconds or specify
Indexing Pitch	1 - 4 (10 mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	550VA max.
Air Pressure	4 - 6 bar
Air Consumption	27 ltr/min. max.
PCB Thickness	0.4mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0100LM (Loader)	1870 x 750 x 1330	380 mm	180 kg
L	NTM0100LL (Loader)	2545 x 970 x 1330	395 mm	250 kg
M	NTM0100UM (Unloader)	1870 x 750 x 1330	380 mm	180 kg
L	NTM0100UL (Unloader)	2545 x 970 x 1330	395 mm	250 kg

DUAL MAGAZINE LOADER/UNLOADER



Plan View



Front View

Legend
 △ : Fixed Point



* Magazine not included
 * Tower light (optional)

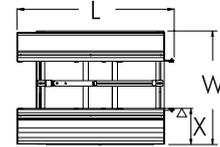
Features

- ❖ Sturdy and stable design
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Toggle level clamps provided for magazine alignment
- ❖ Pneumatic pusher's pressure regulated
- ❖ High throughput with short magazine change-over time
- ❖ SMEMA compatible

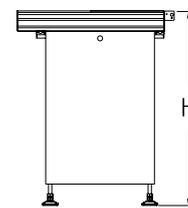
SPECIFICATIONS	
Description	This unit is used for loading or unloading of PCBs.
PCB Magazine	Specify upon order
PCB Loading Time	26 seconds max. (Loader) 20 seconds max. (Unloader)
Indexing Pitch	1 - 4 (10 mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	550VA max.
Air Pressure	4 - 6 bar
Air Consumption	10 ltr/min max.
PCB Thickness	0.4mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM2000LM (Loader)	1080 x 1355 x 1330	380 mm	330 kg
L	NTM2000LL (Loader)	1420 x 1680 x 1330	380 mm	380 kg
M	NTM2000UM (Unloader)	880 x 1350 x 1330	380 mm	330 kg
L	NTM2000UL (Unloader)	1140 x 1680 x 1330	380 mm	360 kg

PUSHER CONVEYOR



Plan View



Front View

Legend
 \triangle : Fixed Point

Features

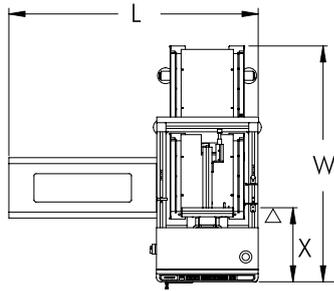
- ❖ Adjustable pusher position
- ❖ Laser carved stainless steel side guide for superior quality and durability
- ❖ Pneumatic pusher's pressure regulated

SPECIFICATIONS

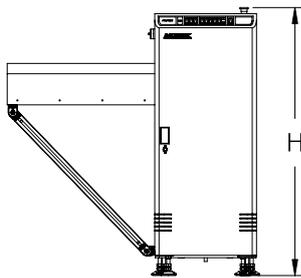
SPECIFICATIONS	
Description	This unit is linked to an Unloader.
Cycle Time	Average 6 seconds
Power Source	From Unloader
Power Consumption	100VA max.
Air Pressure	From Unloader
Air Consumption	5 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM1001-M	750 x 566 x 957	168 mm	60 kg
L	NTM1001-L	950 x 726 x 957	168 mm	70 kg

SINGLE MAGAZINE LOADER



Plan View



Front View

Legend
 △ : Fixed Point



* Magazine not included
 * Tower light (optional)

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Pneumatic clamps provided for magazine alignment
- ❖ Pneumatic pusher's pressure regulated
- ❖ Adjustable pusher position
- ❖ SMEMA compatible

SPECIFICATIONS	
Description	This unit is used for loading of PCBs to the production line.
PCB Magazine	Specify upon order
PCB Loading Time	Average 6 seconds
Indexing Pitch	1 - 4 (10 mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	240VA max.
Air Pressure	4 - 6 bar
Air Consumption	10 ltr/min. max.
PCB Thickness	0.4 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0700LM	1230 x 1170 x 1330	380 mm	130 kg
L	NTM0700LL	1515 x 1455 x 1330	380 mm	180 kg

SINGLE MAGAZINE UNLOADER

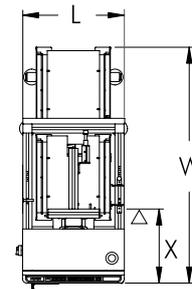


Features

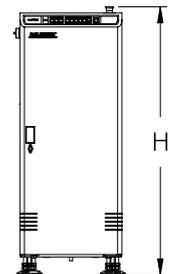
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Pneumatic clamps provided for magazine alignment
- ❖ SMEMA compatible

- * Magazine not included
- * Pusher Conveyor not included. Please refer to Page 4 for details
- * Tower light (optional)

Legend
 △ : Fixed Point



Plan View



Front View

SPECIFICATIONS

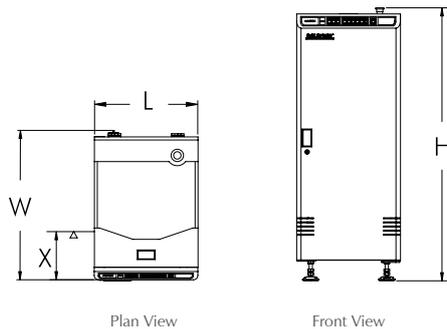
Description	This unit is used for unloading of PCBs from the production line.
PCB Magazine	Specify upon order
PCB Loading Time	Average 6 seconds
Indexing Pitch	1 - 4 (10 mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	240VA max.
Air Pressure	4 - 6 bar
Air Consumption	1.1 ltr/min. max.
PCB Thickness	0.4 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0700UM	500 x 1170 x 1330	380 mm	110 kg
L	NTM0700UL	653 x 1455 x 1330	380 mm	180 kg

BARE BOARD LOADER/ WITH PASS THROUGH MODE

Features

- ❖ Surrounded with covers to provide highest level of safety
- ❖ Top safety cover can be opened for easy access to hardware during maintenance
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Adjustable suction positions provide better grips of PCBs
- ❖ Smooth and parallel width adjustment
- ❖ Small machine footprint
- ❖ SMEMA compatible



Plan View

Front View

Legend
△ : Fixed Point



* Tower light (optional)

SPECIFICATIONS

Description	This unit is used for loading of bare PCBs to the production line.
Maximum PCBs Height	220 mm
Cycle Time	Average 10 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	150VA max.
Air Pressure	6 bar
Air Consumption	90 ltr/min. max.

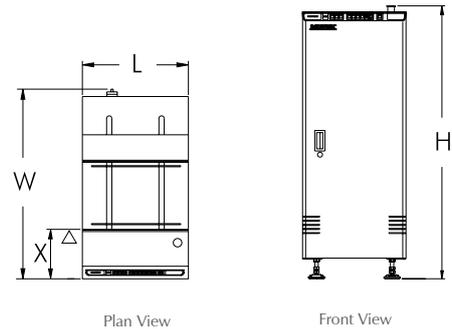
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0200-M	500 x 730 x 1330	234 mm	110 kg
L	NTM0200-L	653 x 870 x 1330	234 mm	140 kg
M	NTM0200PM (Pass through)	500 x 730 x 1330	234 mm	110 kg
L	NTM0200PL (Pass through)	653 x 870 x 1330	234 mm	140 kg



* Tower light (optional)

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Uninterrupted loading
- ❖ Pass through mode provided
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ Small machine footprint
- ❖ SMEMA compatible



Legend
△ : Fixed Point

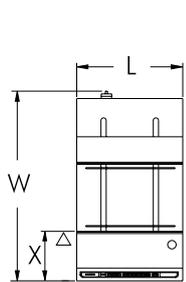
SPECIFICATIONS	
Description	This unit is used for loading of bare PCBs to the production line.
Maximum PCBs Height	220 mm
Cycle Time	Average 10 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	150VA max.
Air Pressure	4 - 6 bar
Air Consumption	5 ltr/min. max.
PCB Thickness	0.6 - 4 mm

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM1200-M	500 x 905 x 1330	234 mm	150 kg
L	NTM1200-L	500 x 905 x 1330	234 mm	150 kg

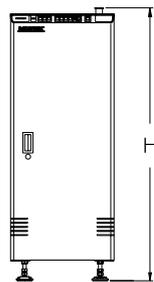
PUSH-UP STACKER

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Pass through mode provided
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ Small machine footprint
- ❖ SMEMA compatible



Plan View



Front View

Legend
△ : Fixed Point



* Tower light (optional)

SPECIFICATIONS

Description	This unit is used for restacking of PCBs from the production line.
Maximum PCBs Height	250 mm
Cycle Time	Average 9 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	150VA max.
Air Pressure	4 - 6 bar
Air Consumption	5 ltr/min. max.
PCB Thickness	0.6 - 4 mm

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM2100-M	500 x 905 x 1330	234 mm	120 kg
L	NTM2100-L	500 x 905 x 1330	234 mm	140 kg

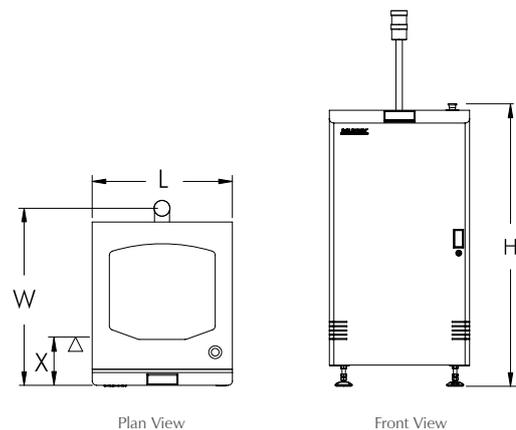
IN-LINE PCB CLEANING MACHINE



* Tower light (optional)

Features

- ❖ User friendly touch screen panel
- ❖ Preset PCB counter and warning alarm will sound as reminder to change adhesive rolls
- ❖ Double side cleaning (selectable)
- ❖ Static elimination (double sided)
- ❖ Easy access to adhesive rolls
- ❖ Internal conveyor system to buffer board before cleaning
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ SMEMA compatible



Legend
△ : Fixed Point

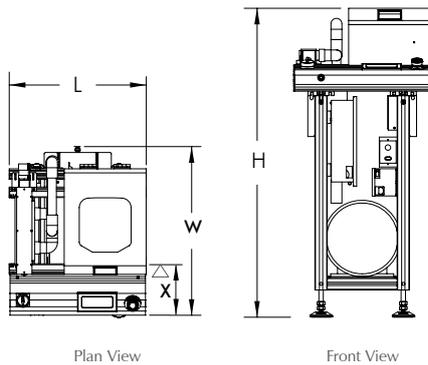
SPECIFICATIONS	
Description	This unit is used for removing dust, particles, glass fiber & etc on bare PCBs surface.
Speed	2 - 14 m/min.
Power Source	100, 230VAC 1Ph
Power Consumption	310VA max.
Air Pressure	4 - 6 bar
Air Consumption	2 ltr/min. max.
PCB Thickness	0.6 - 4 mm

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM5000-M	653 x 800 x 1330	220 mm	180 kg
L	NTM5000-L	750 x 1050 x 1330	220 mm	200 kg

VACUUM CONVEYOR

Features

- ❖ User friendly touch screen panel
- ❖ Effective and user friendly cleaning solution
- ❖ Single side cleaning
- ❖ Static elimination and dust removal (vacuum)
- ❖ Minimum maintenance of cleaning system
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ Small machine footprint
- ❖ SMEMA compatible



Legend
△ : Fixed Point

SPECIFICATIONS	
Description	This unit is used for removing dust, particles, glass fiber & etc on bare PCBs surface
Operating Suction	0.36Kw max.
Discharge	0.37Kw max.
Flow rate	1.4 m ³ /min.
Power Source	100, 230VAC 1Ph
Power Consumption	500VA max.
PCB Thickness	0.4 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0401-C-M	500 x 620 x 1135	186 mm	120 kg
L	NTM0401-C-L	500 x 777 x 1135	186 mm	130 kg

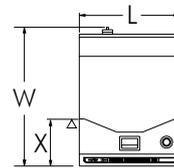
PCB INVERTOR



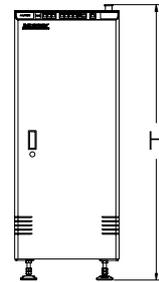
* Tower light (optional)

Features

- ❖ Equipped with built-in torque limiter to ensure highest level of safety
- ❖ 'Top safety cover' can be opened for easy access to hardware during maintenance
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Smooth and precise inverting motion
- ❖ Subsequent inversions continue from the last unloading position (short cycle time)
- ❖ Small machine footprint
- ❖ SMEMA compatible



Plan View



Front View

Legend
△: Fixed Point

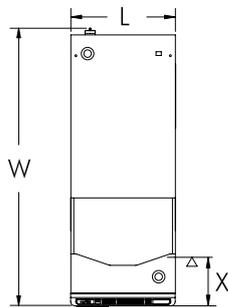
SPECIFICATIONS	
Description	This unit is used to invert PCBs (180°) for "double-sided" process.
Cycle Time	Average 8 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	200VA max.
Air Pressure	4-6 bar
Air Consumption	1.1 ltr/min. max.
PCB Thickness	3 mm max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0300-M	500 x 730 x 1330	234 mm	110 kg
L	NTM0300-L	653 x 870 x 1330	234 mm	120 kg

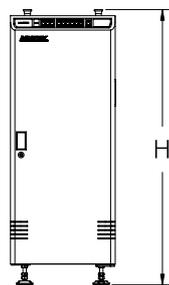
TRAVERSER/SHUTTLE CONVEYOR

Features

- ❖ Surrounded with covers to provide highest level of safety
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Swift, smooth and precise operations (frequency inverter controller)
- ❖ PCB traffic flows can be customised
- ❖ Smooth and parallel width adjustment
- ❖ SMEMA compatible



Plan View



Front View

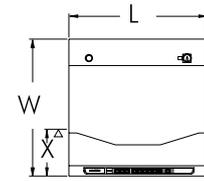
Legend
△ : Fixed Point

SPECIFICATIONS

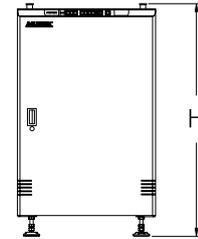
Description	This unit is used to redirect flow of PCBs into different channels in a production line.
Cycle Time	Depends on traversing distance
Power Source	100, 230VAC 1Ph
Power Consumption	250VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0900-M	500 x W x 1100	234 mm	depends on traversing distance
L	NTM0900-L	653 x W x 1100	234 mm	depends on traversing distance

TURN CONVEYOR/DIVERTER



Plan View



Front View

Legend
 \triangle : Fixed Point

NTM1100LM & NTM1100LL : L Turn
 NTM1100IM & NTM1100IL : I Turn
 NTM1100TM & NTM1100TL : T Turn
 NTM1100XM & NTM1100XL : X Turn

Features

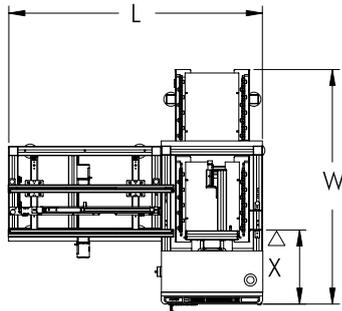
- ❖ Equipped with built-in torque limiter to ensure highest level of safety
- ❖ 'Top safety cover' can be opened for easy access to hardware during maintenance
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Smooth and precise rotation
- ❖ Transfer gap between conveyors is minimised
- ❖ PCB traffic flows can be customised
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ SMEMA compatible

SPECIFICATIONS

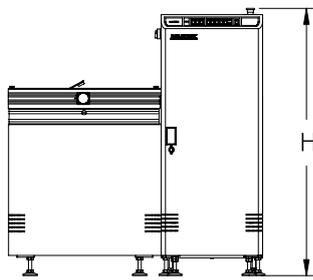
Description	This unit is used to redirect PCBs in a production line.
Cycle Time	Average 16 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	200VA max.
Air Pressure	4 - 6 bar
Air Consumption	1.5 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM1100LM	795 x 795 x 1100	272 mm	160 kg
L	NTM1100LL	875 x 875 x 1100	234 mm	170 kg
M	NTM1100IM	795 x 795 x 1100	272 mm	160 kg
L	NTM1100IL	875 x 875 x 1100	234 mm	170 kg
M	NTM1100TM	795 x 795 x 1100	272 mm	160 kg
L	NTM1100TL	875 x 875 x 1100	234 mm	170 kg
M	NTM1100XM	795 x 795 x 1100	272 mm	160 kg
L	NTM1100XL	875 x 875 x 1100	234 mm	170 kg

MULTI FUNCTION BUFFER STOCKER



Plan View



Front View

Legend
 △ : Fixed Point



* Magazine not included
 * Tower light (optional)

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ First In First Out (FIFO), Last In First Out (LIFO), loader, unloader, reject stock and pass through operating modes
- ❖ Fast, smooth and precise indexing (frequency inverter controller)
- ❖ Pneumatic clamps provided for magazine alignment
- ❖ Pneumatic pusher's pressure regulated
- ❖ Threshold system provided
- ❖ Additional magazines buffering capacity available upon request
- ❖ SMEMA compatible

SPECIFICATIONS	
Description	This unit is used as a buffer between SMD machines or testers.
PCB Magazine	Specify upon order
Cycle Time	Average 20 seconds
Indexing Pitch	1 - 4 (10 mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	350VA max.
Air Pressure	4 - 6 bar
Air Consumption	15 ltr/min. max.
PCB Thickness	0.6 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0600-M	1260 x 1165 x 1330	380 mm	200 kg
L	NTM0600-L	1560 x 1455 x 1330	380 mm	250 kg

OPEN LIFO BUFFER

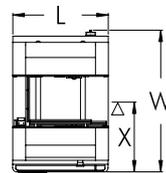


* Tower light (optional)

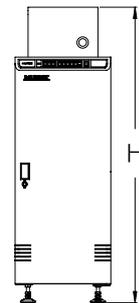
Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Last In First Out (LIFO) and pass through operating modes
- ❖ Open concept provides easy access to the PCBs
- ❖ 'Threshold' system provided
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ Small machine footprint
- ❖ SMEMA compatible

Legend
 △ : Fixed Point



Plan View



Front View

SPECIFICATIONS

Description	This unit is used as a buffer between SMD machines.
Maximum PCBs Capacity	49 pcs
Maximum Load	1.5 kg/PCB
Cycle Time	Average 15 seconds
Indexing Pitch	1 - 4 (9.525 mm pitch)
Power Source	100, 230VAC 1Ph
Power Consumption	250VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM2700-M	500 x 746 x 1565	234 mm	170 kg
L	NTM2700-L	500 x 905 x 1565	234 mm	200 kg

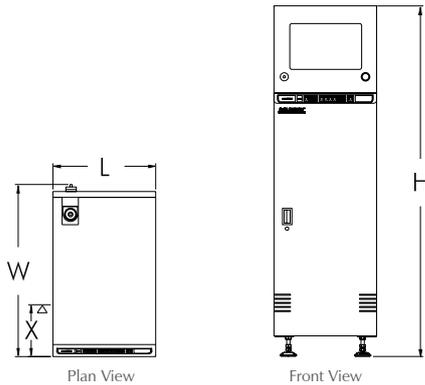
LIFO VERTICAL BUFFER

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Last In First Out (LIFO) and pass through operating modes
- ❖ Threshold system provided
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ Small machine footprint
- ❖ SMEMA compatible



* Tower light (optional)



SPECIFICATIONS	
Description	This unit is used as a buffer between SMD machines.
Maximum PCBs Capacity	20 pcs or specify
Maximum Load	1 kg/PCB
Cycle Time	Average 15 seconds
Indexing Pitch	1 & 2 (25.4 mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	250VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM1300-M	500 x 885 x 1730	260 mm	250 kg
L	NTM1300-L	653 x 1040 x 1730	260 mm	300 kg

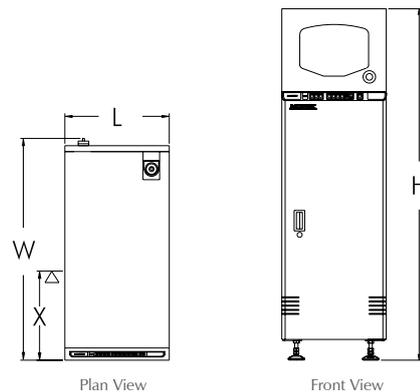
MULTI FUNCTION VERTICAL BUFFER



* Tower light (optional)

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ First In First Out (FIFO), Last In First Out (LIFO) and pass through operating modes
- ❖ Flexible repositioning of 'fingers' (support bars) to accommodate jagged edge PCBs
- ❖ Durable rollers as conveying medium (no replacement of belts needed)
- ❖ Fast, smooth and precise indexing (frequency inverter controller)
- ❖ Threshold system provided
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ Small machine footprint
- ❖ SMEMA compatible



Legend
△ : Fixed Point

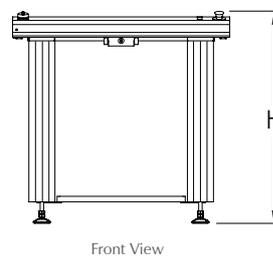
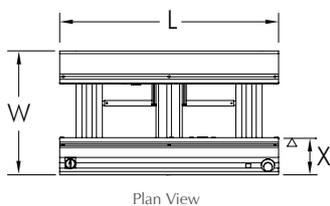
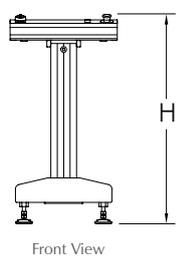
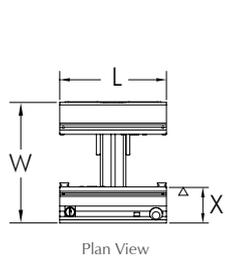
SPECIFICATIONS	
Description	This unit is used as a buffer between SMD machines.
Maximum PCBs Capacity	26 pcs or specify
Maximum Load	2 kg/PCB
Cycle Time	Average 15 seconds
Indexing Pitch	20 mm or specify
Power Source	100, 230VAC 1Ph
Power Consumption	350VA max.
Air Pressure	4 - 6 bar
Air Consumption	2 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM1400-M	500 x 980 x 1700	425 mm	210 kg
L	NTM1400-L	653 x 1080 x 1700	425 mm	240 kg

LINKING CONVEYOR (500 & 1000 MM)

Features

- ❖ Modular design
- ❖ Stability enhanced by 'robust design'
- ❖ Laser carved stainless steel side guides for superior quality and durability
- ❖ Ergonomically designed arm rest
- ❖ Smooth and parallel width adjustment
- ❖ Multi-zone concept available upon request
- ❖ Different lengths available upon request
- ❖ SMEMA compatible
- ❖ Patented (SG Patent No.: 91261)



Legend
△ : Fixed Point

SPECIFICATIONS

Description	This unit is used to link between SMD machines or board handling units.
Conveyor Concept	Belt
Conveyor Speed	14 m/min. or specify
Power Source	100, 230VAC 1Ph
Power Consumption	100VA max.

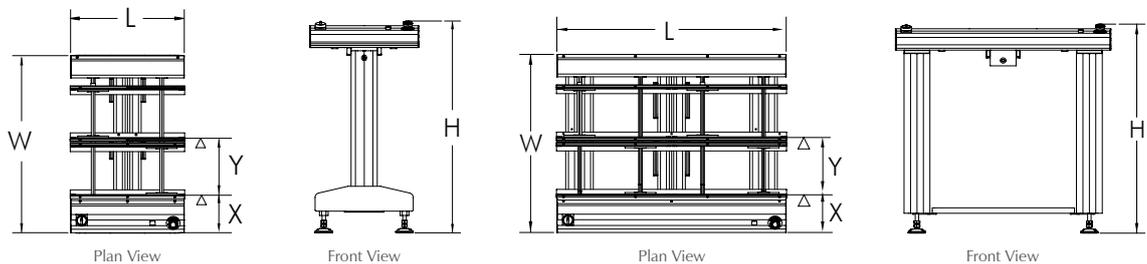
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0401-M	500 x 570 x 985	168 mm	45 kg
L	NTM0401-L	500 x 727 x 985	168 mm	50 kg
M	NTM0401-M	1000 x 570 x 985	168 mm	60 kg
L	NTM0401-L	1000 x 727 x 985	168 mm	70 kg

DUAL TRACK LINKING CONVEYOR (500 & 1000 MM)



Features

- ❖ Modular design
- ❖ Stability enhanced by 'robust design'
- ❖ Laser carved stainless steel side guides for superior quality and durability
- ❖ Ergonomically designed arm rest
- ❖ Smooth and parallel width adjustment
- ❖ Width adjustment for individual track can be independently controlled (optional)
- ❖ Inspection Mode (optional)
- ❖ Two independently controlled belt segment
- ❖ Multi-zone concept available upon request
- ❖ Different lengths available upon request
- ❖ SMEMA compatible
- ❖ Patented (SG Patent No.: 91261)



Legend
Δ : Fixed Point

SPECIFICATIONS

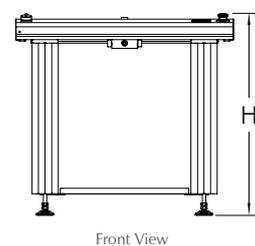
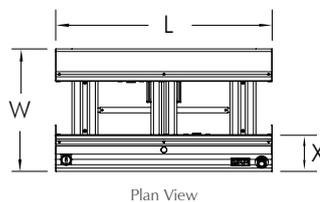
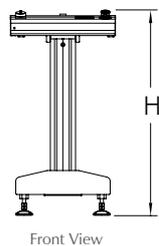
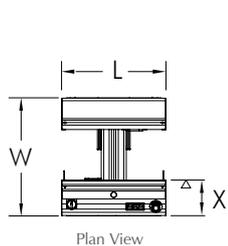
Description	This unit is used to link between SMD machines or board handling units in dual track PCB assembly lines.
Conveyor Concept	Belt
Conveyor Speed	14 m/min. or specify
Fixed to Fixed Rail Distance (Y)	251 mm or specify
PCB Width	50 - 216 mm
Power Source	100, 230VAC 1Ph
Power Consumption	150VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0401DM-500-1	500 x 780 x 980	165 mm	60 kg
M	NTM0401DM-1000-1	1000 x 780 x 980	165 mm	110 kg

INSPECTION CONVEYOR (500 & 1000 MM)

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Modular design
- ❖ Stability enhanced by 'robust design'
- ❖ Laser carved stainless steel side guides for superior quality and durability
- ❖ Ergonomically designed arm rest
- ❖ Smooth and parallel width adjustment
- ❖ Multi-zone concept available upon request
- ❖ Different lengths available upon request
- ❖ Variable speed control
- ❖ SMEMA compatible
- ❖ Patented (SG Patent No.: 91261)



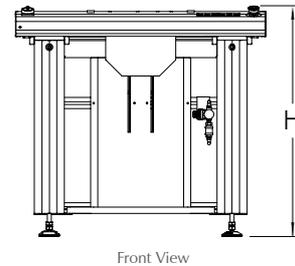
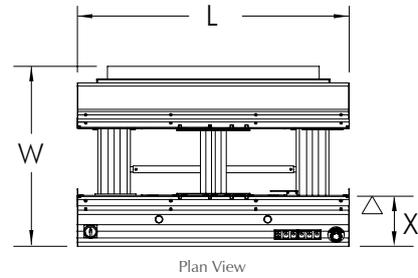
Legend
△ : Fixed Point

SPECIFICATIONS

Description	This unit is used as a visual inspection station between SMD machines.
Conveyor Concept	Belt
Conveyor Speed	0.5 - 14 m/min. or specify
Power Source	100, 230VAC 1Ph
Power Consumption	100VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM0501-M	500 x 570 x 985	168 mm	45 kg
L	NTM0501-L	500 x 727 x 985	168 mm	50 kg
M	NTM0501-M	1000 x 570 x 985	168 mm	70 kg
L	NTM0501-L	1000 x 727 x 985	168 mm	80 kg

PCB REJECT CONVEYOR



Legend
 \triangle : Fixed Point

Features

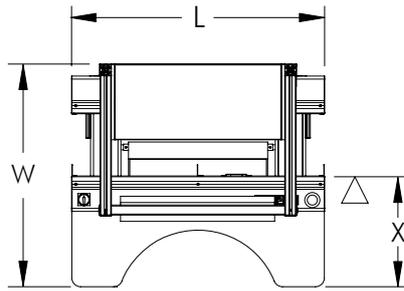
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Includes 'reject', 'inspect' and 'pass through' modes
- ❖ Modular design
- ❖ Stability enhanced by 'robust design'
- ❖ Ergonomically designed arm rest
- ❖ Smooth and parallel width adjustment
- ❖ Different lengths available upon request
- ❖ Variable speed control
- ❖ SMEMA compatible
- ❖ Patented (SG Patent No.: 91261)

SPECIFICATIONS

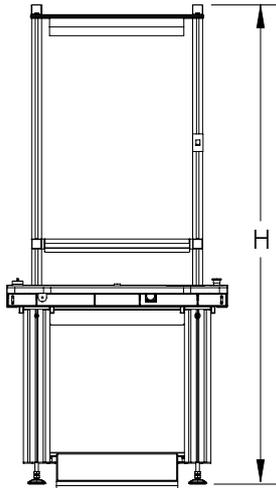
SPECIFICATIONS	
Description	Faulty boards can be lifted up for visual inspection without interrupting the PCBs flow.
Conveyor Concept	Belt
Conveyor Speed	0.5 - 14 m/min. or specify
Power Source	100, 230VAC 1Ph
Power Consumption	150VA max.
Air Consumption	10 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM2500-M	1000 x 667 x 980	186 mm	80 kg
L	NTM2500-L	1000 x 824 x 980	186 mm	90 kg

WORK STATION (1000 MM)



Plan View



Front View

Legend
△ : Fixed Point



Features

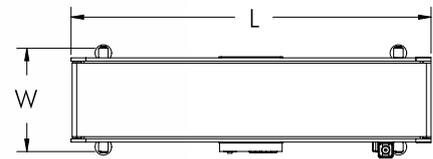
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Modular design
- ❖ Stability enhanced by 'robust design'
- ❖ Laser carved stainless steel side guides for superior quality and durability
- ❖ PCB inspection mode provided
- ❖ Smooth and parallel width adjustment
- ❖ Different lengths available upon request
- ❖ Multi-zone concept available upon request
- ❖ Equipped with lighting features, single layer part tray and adjustable foot rest
- ❖ Variable speed control
- ❖ SMEMA compatible
- ❖ Patented (SG Patent No.: 91261)

SPECIFICATIONS

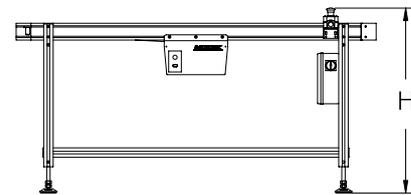
Description	This unit is used to link between SMD machines or board handling units. It also allows manual assembly work to be carried out.
Conveyor Concept	Belt
Conveyor Speed	0.5 - 14 m/min. or specify
Conveyor Length	1000 mm or specify
Power Source	100, 230VAC 1Ph
Power Consumption	200VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM1800-M	1000 x 887 x 2190	438 mm	110 kg
L	NTM1800-L	1000 x 1044 x 2190	438 mm	120 kg

FLAT BELT CONVEYOR



Plan View



Front View

Legend
 \triangle : Fixed Point

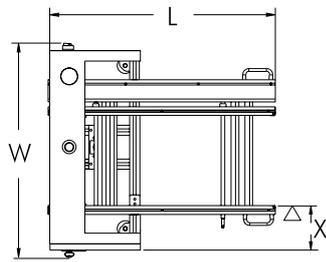
Features

- ❖ Conductive belt
- ❖ Stability enhanced by 'robust design'
- ❖ Available in 300, 400, 500 mm belt width or specify
- ❖ Available in 1000, 2000, 3000 and 6000 mm length or specify
- ❖ Lighting feature, work table, instruction holder and part tray (optional)
- ❖ Variable speed control
- ❖ PLC control (optional)

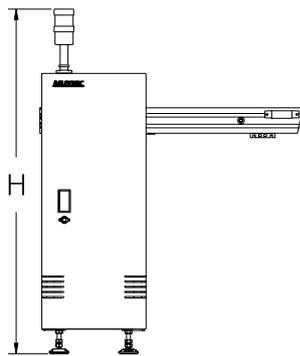
SPECIFICATIONS	
Description	This unit is used for transferring of PCBs/pallets in the production line.
Machine Length	1500 mm or specify
Belt Width	300, 400, 500 mm or specify
Conveyor Speed	0 - 8 m/min.
Power Source	100, 230VAC 1Ph
Power Consumption	100VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Height (mm)	Weight (Approximately)
F	NTM3500-F	Specify upon order	950 mm or specify	Depends on length

MANUAL LIFT GATE CONVEYOR



Plan View



Front View

Legend
 △ : Fixed Point



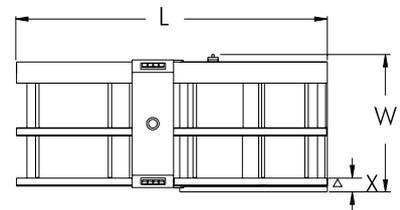
Features

- ❖ 600 mm passage way or specify
- ❖ Cylinder assisted lifting motion
- ❖ Pneumatic locking device installed to enhance safety
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ SMEMA compatible

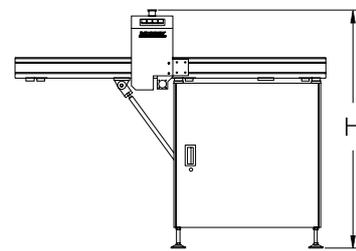
SPECIFICATIONS	
Description	This unit is used when a passage way is required in a production line.
Cycle Time	Average 8 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	100VA max.
Air Pressure	2 - 4 bar
Air Consumption	35 ltr/min. max.
PCB Thickness	0.6 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM1500-M	1000 x 790 x 1110	194 mm	90 kg
L	NTM1500-L	1000 x 920 x 1110	194 mm	100 kg

LOWERING GATE CONVEYOR



Plan View



Front View

Legend
 \triangle : Fixed Point

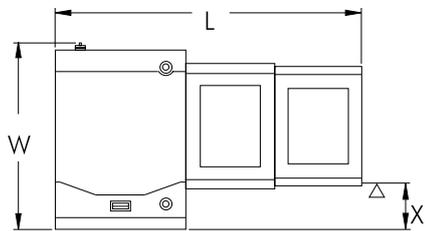
Features

- ❖ 600 mm passage way or specify
- ❖ Lowering and lifting of gate conveyor (push buttons control)
- ❖ Safety sensor installed to enhance safety
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ SMEMA compatible

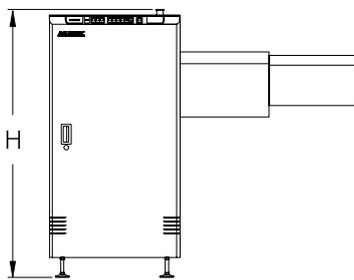
SPECIFICATIONS	
Description	This unit is used when a passage way is required in a production line (semi automatic).
Cycle Time	Average 7 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	200VA max.
Air Pressure	4 - 6 bar
Air Consumption	48 ltr/min. max.
PCB Thickness	0.6 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM1600-M	1500 x 570 x 1060	75 mm	115 kg
L	NTM1600-L	1500 x 727 x 1060	75 mm	135 kg

TELESCOPIC GATE CONVEYOR (NORMALLY OPENED)



Plan View



Front View

Legend
△ : Fixed Point



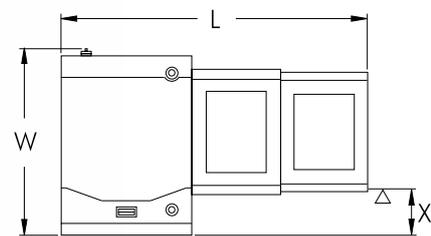
Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Passage way 'Normally Opened' (850 mm)
- ❖ Swift and smooth retraction/extension of conveyor (frequency inverter controller)
- ❖ Safety sensor installed to enhance safety
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ SMEMA compatible

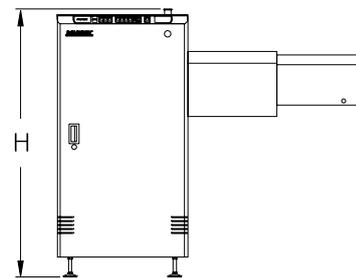
SPECIFICATIONS	
Description	This unit is used when a passage way is required in a production line (fully automatic).
Cycle Time	Average 15 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	250VA max.
PCB Thickness	0.6 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM1700-M	1500 x 775 x 1130	234 mm	225 kg
L	NTM1700-L	1500 x 905 x 1130	234 mm	250 kg

TELESCOPIC GATE CONVEYOR (NORMALLY CLOSED)



Plan View



Front View

Legend
 Δ : Fixed Point

Features

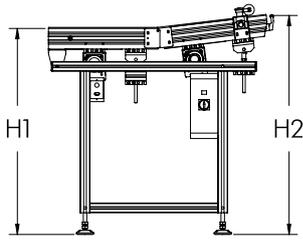
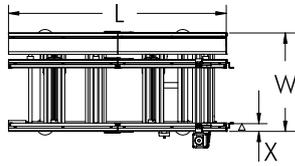
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Passage way 'Normally Closed' (745 mm)
- ❖ Swift and smooth retraction/extension of conveyor (frequency inverter controller)
- ❖ Additional built-in buffer zone
- ❖ Safety sensor installed to enhance safety
- ❖ Smooth and parallel width adjustment (leadscrew)
- ❖ SMEMA compatible

SPECIFICATIONS

Description	This unit is used when a passage way is required in a production line (fully automatic).
Cycle Time	Average 12 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	300VA max.
Air Pressure	4 - 6 bar
Air Consumption	16 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM3600-M	1500 x 780 x 1330	292 mm	230 kg
L	NTM3600-L	1500 x 930 x 1330	292 mm	250 kg

INFEEED CONVEYOR



Legend
 △ : Fixed Point



Features

- ❖ Robust design
- ❖ Two belt segments
- ❖ Adjustable inclined angle (4° - 7°) or specify
- ❖ Variable speed control to synchronise with wave soldering machine
- ❖ PLC controlled (optional)
- ❖ SMEMA compatible

SPECIFICATIONS	
Description	This unit is used for transferring of PCBs/pallets into the soldering machine.
Conveyor Speed	0.5 - 14 m/min.
PCB Edge Support	3 mm
Power Source	100, 230VAC 1Ph
Power Consumption	150VA max.
PCB Thickness	0.6 mm min.

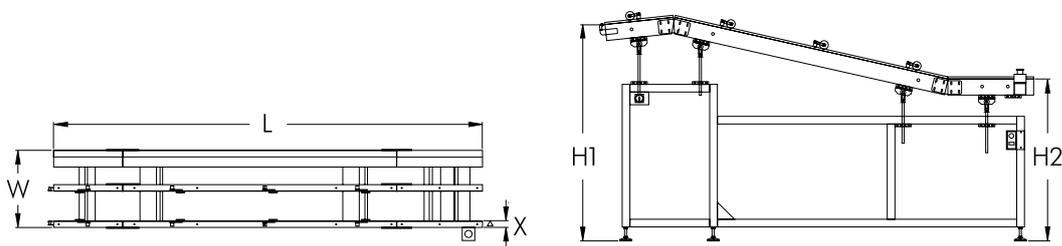
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM2300IM	1000 x 535 x H1, H2 (specify upon order)	50 mm	60 kg
L	NTM2300IL	1000 x 690 x H1, H2 (specify upon order)	50 mm	70 kg

OUTFEED CONVEYOR



Features

- ❖ Robust design
- ❖ Sliding regulator provided
- ❖ PLC controlled (optional)
- ❖ Cooling fans (optional)



Plan View

Front View

Legend
 △ : Fixed Point

SPECIFICATIONS

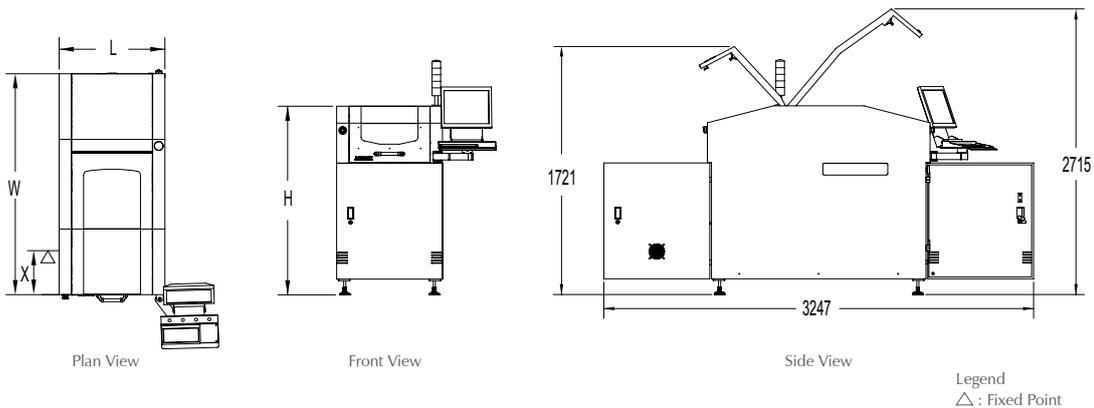
Description	This unit is used for transferring of PCBs/pallets from the soldering machine.
Conveyor Speed	0.5 - 3 m/min. or specify
PCB Edge Support	3 mm
Power Source	100, 230VAC 1Ph
Power Consumption	150VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM2300-M	2500 x 535 x H1, H2 (specify upon order)	50 mm	180 kg
L	NTM2300-L	2500 x 690 x H1, H2 (specify upon order)	50 mm	200 kg

BARCODE LABELLING CELL SERIES 3

Features

- ❖ Rigid machine frame with large access door
- ❖ Integrated 600dpi Brady printer
- ❖ ZebraDesigner 2 user licence
- ❖ Slide out mechanism (rear side) for easy and fast label and ribbon replacement
- ❖ Label placement programmable in 1° step
- ❖ Vacuum sensing of label from pick-up to placement
- ❖ Scanner for value verification after printing
- ❖ Industrial PC & 17" LCD monitor
- ❖ User friendly software
- ❖ Automatic width adjustment conveyor
- ❖ PCB side clamping
- ❖ Active PCB support
- ❖ Short product change-over time
- ❖ Selectable by-pass operation
- ❖ SMEMA compatible



SPECIFICATIONS	
Description	This unit is used to print, pick and apply labels onto bare PCBs or on top of components.
Minimum Label Size	5 x 5 mm
Cycle Time	2.5 seconds per label (Print/Scan/Pick & Place)
Transfer Time	≤5 seconds (Load, unload & shuttle doors)
Conveyor Speed	24 m/min.
PCB Width	65 - 460 mm
PCB Length	80 - 460 mm
Power Source	100, 230VAC 1Ph
Power Consumption	920VA max.
Air Pressure	6 bar
Air Consumption	70 ltr/min. max.

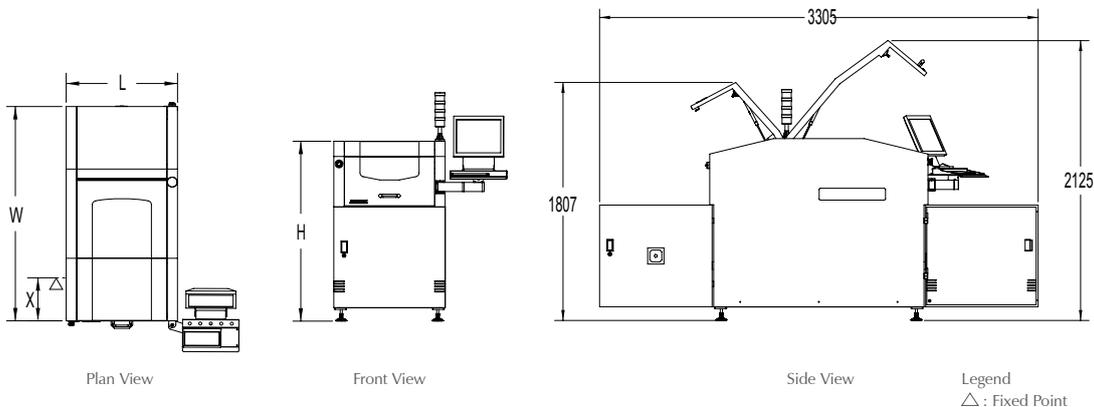
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
XL	NTM5710-X	850 x 1680 x 1440	335 mm	750 kg

LASER MARKING CELL SERIES 3



Features

- ❖ 10 Watt CO₂ (Class 4)
- ❖ Class 1 laser protected housing
- ❖ Air cooling system
- ❖ Fume extraction device
- ❖ User friendly software
- ❖ Digitally controlled linear axis for x & y movements
- ❖ Selectable by-pass operation
- ❖ Automatic width adjustment conveyor
- ❖ PCB side clamping
- ❖ PCB lifting system for constant focal point
- ❖ Short product change-over time
- ❖ Barcode scanner or camera for readability check
- ❖ Industrial PC & 17" LCD monitor
- ❖ Integrated inverting unit for double-sided marking (Optional)
- ❖ SMEMA compatible



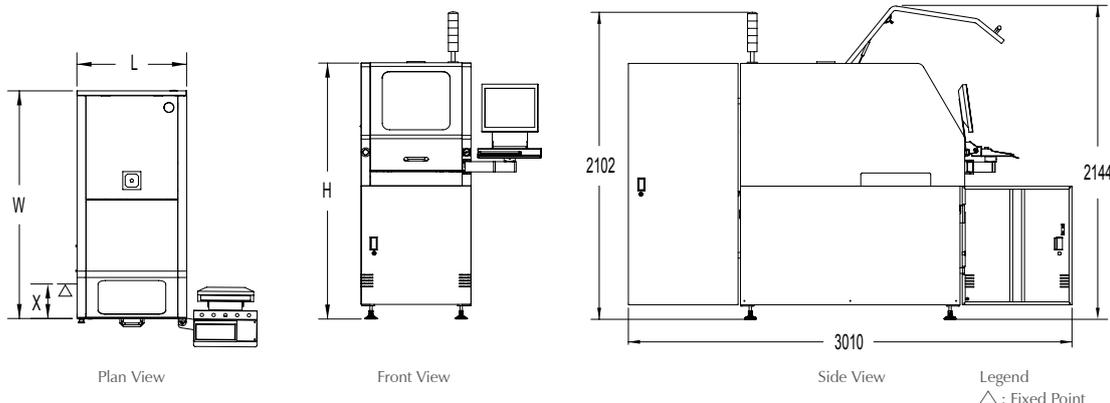
SPECIFICATIONS	
Description	This unit is used to mark text, barcode, 2D code & graphic onto PCBs.
Marking Area	105 x 105 mm per position 460 x 460 mm total coverage
Cell Size	≥ 0.127 mm
Laser Wave Length	10.63 μm
Conveyor speed	24 m/min.
PCB transfer time	≤ 5 secs
PCB Width	65 - 460 mm
PCB Length	80 - 508 mm
Power Source	100, 230VAC 1Ph
Power Consumption	1660VA max.
Air Pressure	5 bar
Air Consumption	20 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
XL	NTM5510-X	850 x 1645 x 1380	330 mm	700 kg

LASER MARKING CELL SERIES 5

Features

- ❖ 10 Watt CO₂ (Class 4)
- ❖ Class 1 laser protected housing
- ❖ Air cooling system
- ❖ Fume extraction device
- ❖ User friendly software
- ❖ Short cycle time
- ❖ Selectable by-pass operation
- ❖ Automatic width adjustment conveyor
- ❖ PCB side clamping
- ❖ Short product change-over time
- ❖ Industrial PC & 17" LCD monitor
- ❖ Integrated inverting unit for double-sided marking (Optional)
- ❖ Barcode scanner or camera for readability check (Optional)
- ❖ SMEMA compatible



SPECIFICATIONS	
Description	This unit is used to mark text, barcode, 2D code & graphic onto PCBs.
Marking Area	350 x 350 mm total coverage
Cell Size	≥ 0.195 mm
Laser Wave Length	10.63 μm
Conveyor speed	24 m/min.
PCB transfer time	≤ 5 seconds
PCB Width	65 - 460 mm
PCB Length	80 - 508 mm
Power Source	100, 230VAC 1Ph
Power Consumption	1600VA max.
Air Pressure	5 bar
Air Consumption	20 ltr/min. max.

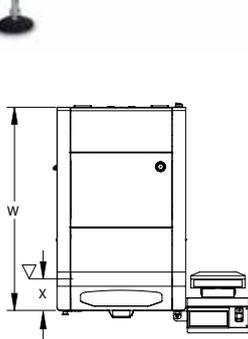
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
XL	NTM5610-X	745 x 1558 x 1752	236 mm	640 kg

INKJET MARKING CELL

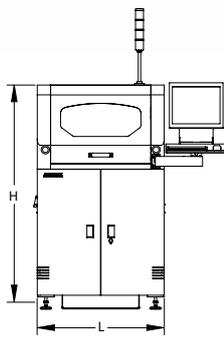


Features

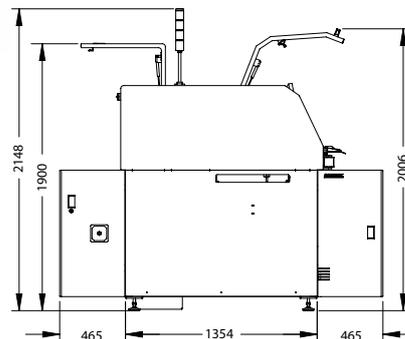
- ❖ High resolution inkjet printer
- ❖ User friendly software
- ❖ Digitally controlled linear axis for X & Y movements
- ❖ Selectable by-pass operation
- ❖ Automatic width adjustment conveyor
- ❖ PCB side clamping
- ❖ PCB lifting system for constant focal point
- ❖ Short product change-over time
- ❖ Barcode scanner or camera for readability check
- ❖ Industrial PC & 17" LCD monitor
- ❖ SMEMA compatible



Plan View



Front View



Side View

Legend
△ : Fixed Point

SPECIFICATIONS

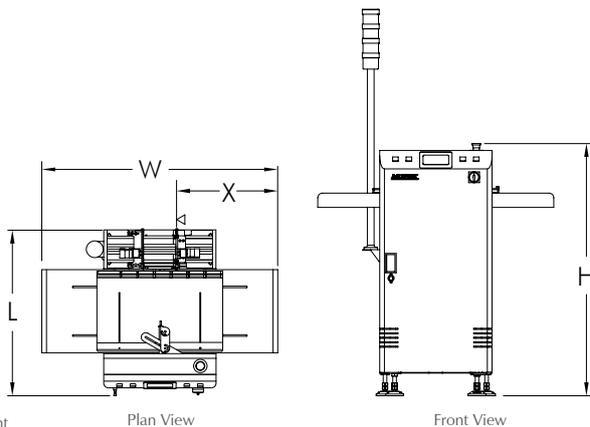
Description	This unit is used to mark text, barcode, 2D code & graphic onto PCBs.
Print resolution	100 dots/inch (*Optional: up to 170 dpi)
Print size	1 - 5 mm (based on different resolution)
Throw distance	4 - 15 mm
Marking Area	460 x 460 mm total coverage
Marking Speed	1 meter/sec
PCB transfer time	≤ 6 secs
Conveyor speed	16 m/min.
PCB Width	65 - 460 mm
PCB Length	80 - 460 mm
Power Source	100, 230VAC 1Ph
Power Consumption	600VA max.
Air Pressure	4 - 6 bar
Air Consumption	2 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
XL	NTM5400-X	900 x 1430 x 1600	240 mm	420 kg

ADVANCE PLATFORM LOADER

Features

- ❖ Touch screen panel enables swift adjustment for various types of magazines in operation
- ❖ Multi-magazine type manual loading (quantity depends on dimension of magazine)
- ❖ Stores up to 10 different types of magazine dimensions
- ❖ Suitable for 'high-mix', 'low-volume' operations
- ❖ Servo motor drive for precise indexing
- ❖ Pneumatic pusher's pressure regulated
- ❖ SMEMA compatible



SPECIFICATIONS

Description	This unit is used for loading of substrates, leadframes or carriers.		
Magazine		Min. (mm)	Max. (mm)
	Width	30	250
	Length	100	280
	Height	300 mm max.	
Indexing Pitch	6 mm pitch or specify		
Power Source	100, 230VAC 1Ph		
Power Consumption	850VA max.		
Air Pressure	4 - 6 bar		
Air Consumption	1.1 ltr/min. max.		

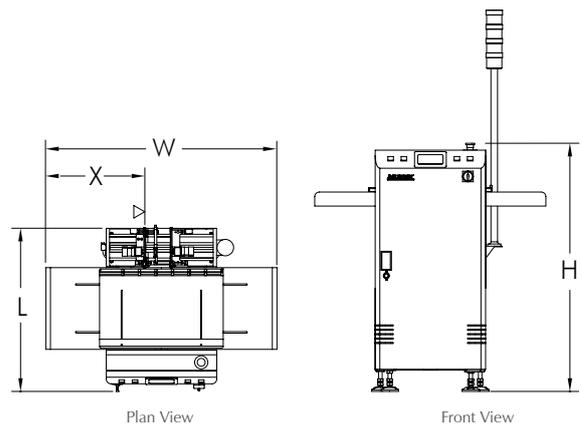
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM4410LM	745 x 1050 x 1130	450 mm	165 kg

ADVANCE PLATFORM UNLOADER



Features

- ❖ Touch screen panel enables swift adjustment for various types of magazines in operation
- ❖ Multi-magazine type manual loading (quantity depends on dimension of magazine)
- ❖ Stores up to 10 different types of magazine dimensions
- ❖ Suitable for 'high-mix', 'low-volume' operations
- ❖ Servo motor drive for precise indexing
- ❖ Pneumatic pusher's pressure regulated
- ❖ SMEMA compatible



Legend
△ : Fixed Point

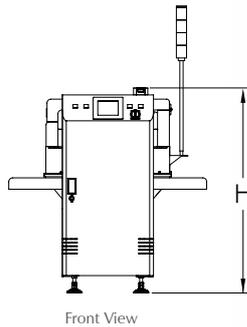
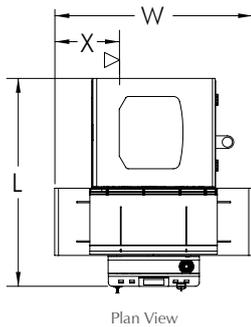
SPECIFICATIONS			
Description	This unit is used for unloading of substrates, leadframes or carriers.		
Magazine		Min. (mm)	Max. (mm)
	Width	30	250
	Length	100	280
	Height	300 mm max.	
Indexing Pitch	6 mm pitch or specify		
Power Source	100, 230VAC 1Ph		
Power Consumption	850VA max.		
Air Pressure	4 - 6 bar		
Air Consumption	0.9 ltr/min max.		

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM4410UM	760 x 1050 x 1165	450 mm	165 kg

ADVANCE PLATFORM WAFER LOADER

Features

- ❖ Touch screen panel enables swift adjustment for various wafer types (8" & 12")
- ❖ Servo motor drive for precise indexing and wafer loading
- ❖ Vacuum suction provide better grips of wafer while loading from wafer cassette or magazine
- ❖ Slot detection feature
- ❖ SMEMA compatible



Legend
 △ : Fixed Point

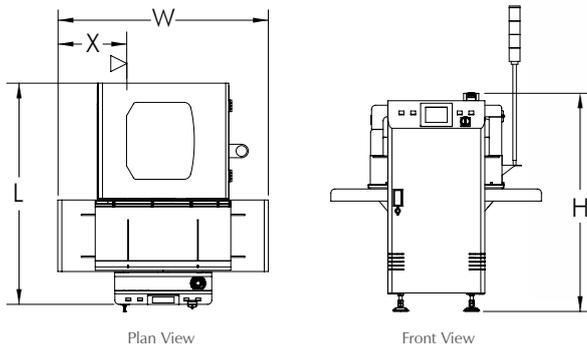
SPECIFICATIONS	
Description	This unit is used for loading of 8" & 12" wafer.
Wafer Width	8", 12"
Magazine/Cassette Height	300 mm max.
Indexing Pitch	10 mm or specify
Power Source	100, 230VAC 1Ph
Power Consumption	1200 VA max.
Air Pressure	6 bar
Air Consumption	15 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM4415LM	1150 x 1090 x 1165	360 mm	300 kg

ADVANCE PLATFORM WAFER UNLOADER

Features

- ❖ Touch screen panel enables swift adjustment for various wafer types (8" & 12")
- ❖ Servo motor drive for precise indexing and wafer unloading
- ❖ Vacuum suction provide better grips of wafer while unloading from wafer cassette or magazine
- ❖ Slot detection feature
- ❖ SMEMA compatible



Legend
△ : Fixed Point

SPECIFICATIONS

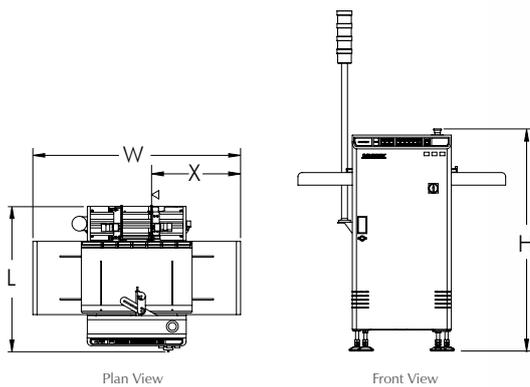
Description	This unit is used for unloading of 8" & 12" wafer.
Wafer Width	8", 12"
Magazine/Cassette Height	300 mm max.
Indexing Pitch	10 mm or specify
Power Source	100, 230VAC 1Ph
Power Consumption	1200 VA max.
Air Pressure	6 bar
Air Consumption	15 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM4415UM	1150 x 1090 x 1165	360 mm	300 kg

PLATFORM LOADER

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Single-magazine type manual loading (quantity depends on dimension of magazine)
- ❖ Frequency inverter control for precise indexing
- ❖ Pneumatic pusher's pressure regulated
- ❖ SMEMA compatible



Legend
 △ : Fixed Point

SPECIFICATIONS

Description	This unit is used for loading of substrates, leadframes or carriers.
Magazine	Specify upon order
Indexing Pitch	6 mm pitch or specify
Power Source	100, 230VAC 1Ph
Power Consumption	450VA max.
Air Pressure	4 - 6 bar
Air Consumption	1.1 ltr/min. max.

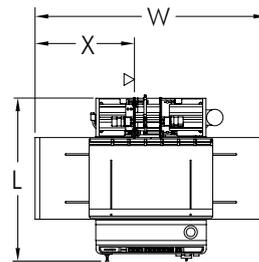
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM4411LM	745 x 1050 x 1165	450 mm	165 kg

PLATFORM UNLOADER

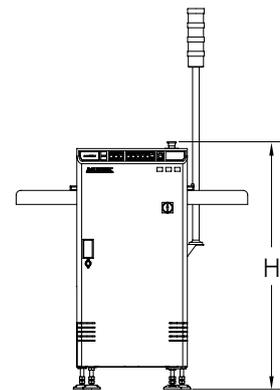


Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Single-magazine type manual loading (quantity depends on dimension of magazine)
- ❖ Frequency inverter control for precise indexing
- ❖ Pneumatic pusher's pressure regulated
- ❖ SMEMA compatible



Plan View



Front View

Legend
△ : Fixed Point

SPECIFICATIONS

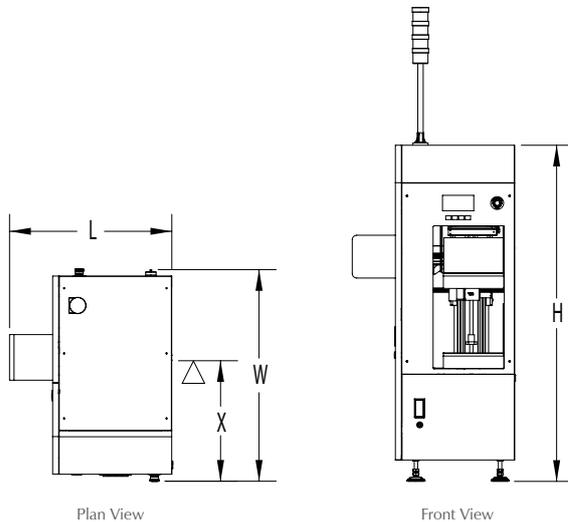
Description	This unit is used for unloading of substrates, leadframes or carriers.
Magazine	Specify upon order
Indexing Pitch	6 mm pitch or specify
Power Source	100, 230VAC 1Ph
Power Consumption	450VA max.
Air Pressure	4 - 6 bar
Air Consumption	0.9 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM4411UM	745 x 1050 x 1165	450 mm	165 kg

HIGH SPEED MINI LOADER

Features

- ❖ Applicable to various substrates, leadframes or carriers
- ❖ 'Servo control' lifting motion
- ❖ High speed and precise indexing
- ❖ Machine size depends on the type of magazine used
- ❖ Stores up to 10 different types of magazine dimensions
- ❖ Stainless steel magazine guide
- ❖ Pneumatic pusher's pressure regulated
- ❖ Easy loading or unloading of magazines
- ❖ User friendly touch screen panel
- ❖ SMEMA compatible



Legend
 △ : Fixed Point



SPECIFICATIONS	
Description	This unit is used for loading of substrates, leadframes or carriers.
Magazine	Specify upon order
No. of Magazines	Depends on magazine type
Loading Time	Average 5 seconds
Magazine Change-over Time	Average 20 seconds
Indexing Pitch	1 - 4 (5mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	850VA max.
Air Pressure	4 - 6 bar
Air Consumption	10 ltr/min. max.

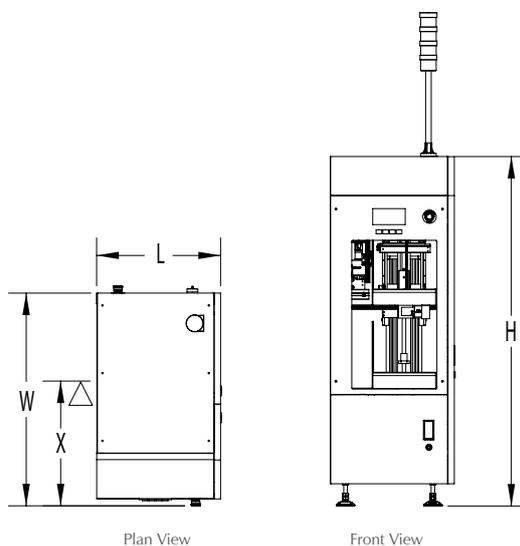
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM4412LM	753 x 989 x 1571	530 mm	210 kg

HIGH SPEED MINI UNLOADER



Features

- ❖ Applicable to various substrates, leadframes or carriers
- ❖ 'Servo control' lifting motion
- ❖ High speed and precise indexing
- ❖ Machine size depends on the type of magazine used
- ❖ Stores up to 10 different types of magazine dimensions
- ❖ Stainless steel magazine guide
- ❖ Pneumatic pusher's pressure regulated
- ❖ Easy loading or unloading of magazines
- ❖ User friendly touch screen panel
- ❖ SMEMA compatible



Legend
 △ : Fixed Point

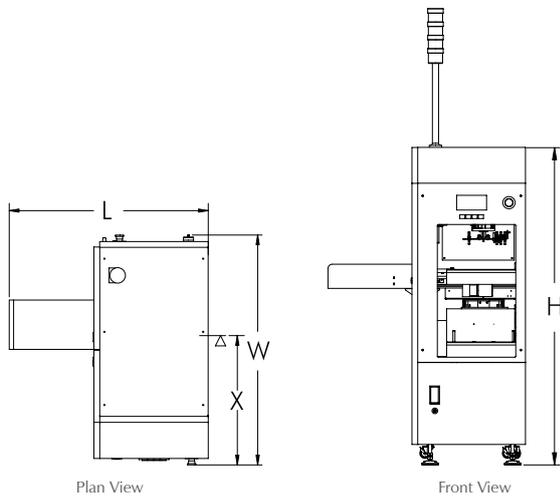
SPECIFICATIONS	
Description	This unit is used for unloading of substrates, leadframes or carriers.
Magazine	Specify upon order
No. of Magazines	Depends on magazine type
Loading Time	Average 5 seconds
Magazine Change-over Time	Average 20 seconds
Indexing Pitch	1 - 4 (5mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	850VA max.
Air Pressure	4 - 6 bar
Air Consumption	10 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM4412UM	553 x 956 x 1571	530 mm	210 kg

STACK LEADFRAME/MAGAZINE LOADER

Features

- ❖ Applicable to various substrates, leadframes or carriers
- ❖ Applicable to handle magazine of various sizes
- ❖ 'Servo Control' lifting/traversing motion
- ❖ High speed and precise indexing
- ❖ Easy loading or unloading of magazines
- ❖ Stores up to 10 different types of magazine dimensions
- ❖ Operation selectable between magazine or stack
- ❖ User friendly touch screen panel
- ❖ Fast product change-over cycle
- ❖ SMEMA compatible



Legend
 △ : Fixed Point

SPECIFICATIONS	
Description	This unit is used for loading of substrates, leadframes or carriers.
Magazine	Specify upon order
No. of Magazines	Depends on magazine type
Loading Time	Average 8 seconds (excluding interleaf)
Magazine Change-over Time	Average 20 seconds
Indexing Pitch	1 - 4 (5mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	1000VA max.
Air Consumption	15 ltr/min.

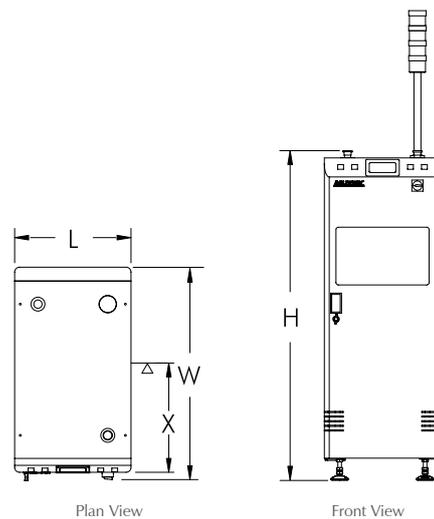
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM4413LM	955 x 1120 x 1550	660 mm	340 kg

STACK LOADER



Features

- ❖ Applicable to various leadframes and substrates
- ❖ 'Servo control' traversing motion
- ❖ High speed and precise indexing
- ❖ Adjustable picking position (using vacuum cup)
- ❖ Fast product change-over cycle
- ❖ SMEMA compatible



Legend
 △ : Fixed Point

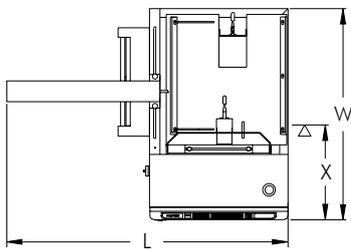
SPECIFICATIONS	
Description	This unit is used for loading of leadframes and substrates.
Maximum Capacity	300 pieces (based on 0.3mm thickness)
Loading Time	15 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	300VA max.
Air Pressure	4 - 6 bar
Air Consumption	15 ltr/min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTM4414LM	500 x 920 x 1430	524 mm	300 kg

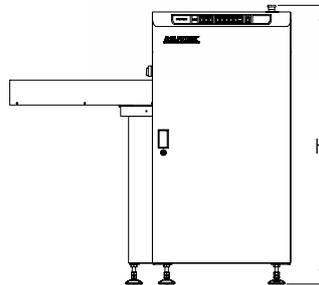
ECONOMICAL SINGLE MAGAZINE LOADER

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Toggle lever clamps provided for magazine alignment
- ❖ Adjustable pusher position
- ❖ Pneumatic pusher's pressure regulated
- ❖ 'Threshold' system provided
- ❖ The 'L' model has an adjustable platform which can accommodate both 'M' and 'L' size magazines
- ❖ SEMEA compatible



Plan View



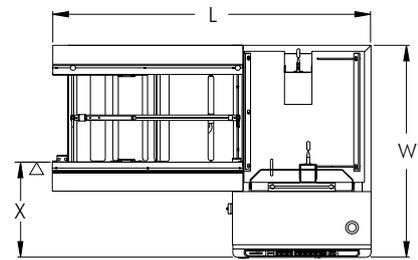
Front View

Legend
 Δ : Fixed Point

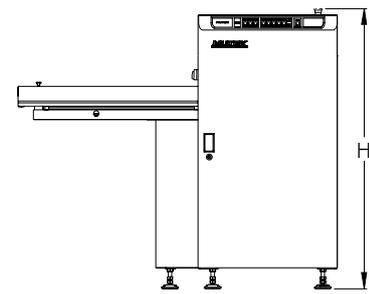
SPECIFICATIONS	
Description	This unit is used for loading of PCBs to the production line.
PCB Magazine	One
PCB Loading Time	Average 7 seconds
Indexing Pitch	1 - 4 (10 mm pitch)
Power Source	100, 230VAC 1Ph
Power Consumption	240VA max.
Air Pressure	4 - 6 bar
Air Consumption	10 ltr/min. max.
PCB Thickness	0.4 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTE0700LM	1080 x 855 x 1330	452 mm	160 kg
L	NTE0700LL	1330 x 1005 x 1330	452 mm	180 kg

ECONOMICAL SINGLE MAGAZINE UNLOADER



Plan View



Front View

Legend
△ : Fixed Point

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Toggle lever clamps provided for magazine alignment
- ❖ Adjustable pusher position
- ❖ Pneumatic pusher's pressure regulated
- ❖ 'Threshold' system provided
- ❖ The 'L' model has an adjustable platform which can accommodate both 'M' and 'L' size magazines
- ❖ SMEMA compatible

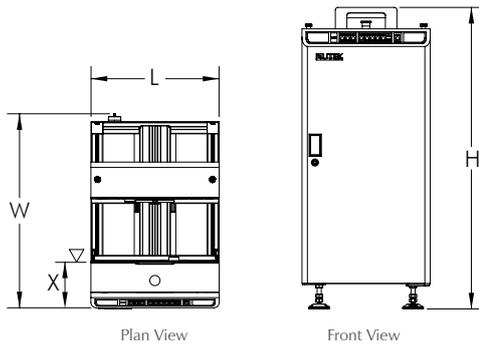
SPECIFICATIONS	
Description	This unit is used for unloading of PCBs from the production line.
PCB Magazine	One
PCB Loading Time	Average 7 seconds
Indexing Pitch	1 - 4 (10 mm pitch)
Power Source	100, 230VAC 1Ph
Power Consumption	270VA max.
Air Pressure	4 - 6 bar
Air Consumption	10 ltr/min. max.
PCB Thickness	0.4 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTE0700UM	1200 x 845 x 1330	452 mm	180 kg
L	NTE0700UL	1500 x 1005 x 1330	452 mm	230 kg

ECONOMICAL DESTACKER

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Uninterrupted loading
- ❖ Pass through mode provided
- ❖ Smooth and parallel manual width adjustment
- ❖ Small machine footprint
- ❖ SMEMA compatible

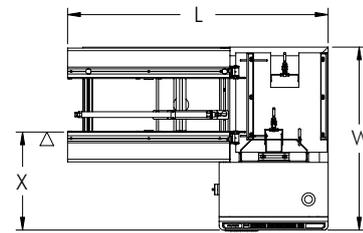


Legend
△ : Fixed Point

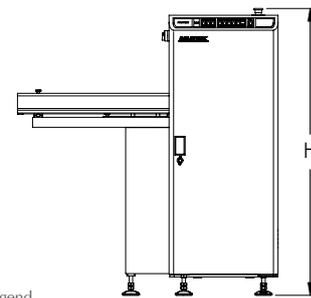
SPECIFICATIONS	
Description	This unit is used for loading of bare PCBs to the production line.
Maximum PCBs Height	200 mm or 20 kg max.
Cycle Time	Average 5 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	100VA max.
Air Pressure	4 - 6 bar
Air Consumption	5 ltr/min. max.
PCB Thickness	0.6 - 4 mm

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTE1200-M	500 x 810 x 1185	180 mm	80 kg
L	NTE1200-L	500 x 810 x 1185	180 mm	80 kg

ECONOMICAL BUFFER STOCKER



Plan View



Legend
Δ : Fixed Point

Front View

Features

- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ First In First Out (FIFO), Last In First Out (LIFO), loader, unloader, reject stock and pass through operating modes
- ❖ Adjustable pusher position
- ❖ Pneumatic pusher's pressure regulated
- ❖ Fast, smooth and precise indexing (frequency inverter controller)
- ❖ 'Threshold' system provided
- ❖ The 'L' model has an adjustable platform which can accommodate both 'M' and 'L' size magazines
- ❖ SMEMA compatible

SPECIFICATIONS

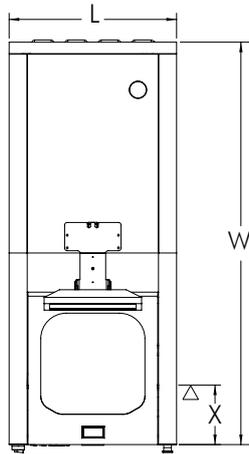
SPECIFICATIONS	
Description	This unit is used as a buffer between SMD machines or testers.
PCB Magazine	One
Cycle Time	Average 20 seconds
Indexing Pitch	1 - 4 (10 mm pitch)
Power Source	100, 230VAC 1Ph
Power Consumption	350VA max.
Air Pressure	4 - 6 bar
Air Consumption	15 ltr/min. max.
PCB Thickness	0.4 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	NTE0600-M	1200 x 845 x 1330	452 mm	180 kg
L	NTE0600-L	1500 x 1010 x 1330	452 mm	220 kg

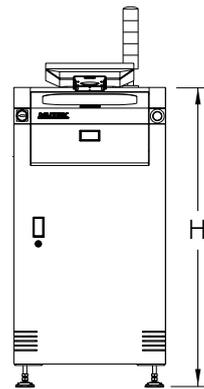
ECONOMICAL LASER MARKING CELL

Features

- ❖ 10 Watt CO₂ (Class 4)
- ❖ Class 1 laser protected housing
- ❖ Air cooling system
- ❖ Fume extraction device
- ❖ User friendly software
- ❖ Digitally controlled linear axis for X & Y movement
- ❖ Selectable by-pass operation
- ❖ Automatic width adjustment conveyor
- ❖ PCB side clamping
- ❖ Short product change-over time
- ❖ Barcode scanner for readability check
- ❖ Industrial PC & 17" LCD monitor
- ❖ SMEMA compatible



Plan View



Front View

Legend
△ : Fixed Point

SPECIFICATIONS	
Description	This unit is used to mark text, barcode, 2D code and graphic onto PCBs.
Marking Area	70 x 70 mm per position 450 x 460 mm total coverage
Marking Speed	225 characters/sec max.
Laser Wave Length	10.63 μm
Laser Spot Size	180 μm
Conveyor Speed	18 m/min.
PCB Transfer Time	6 secs
Power Source	230VAC, 50Hz, 1Ph
Power Consumption	1500VA max.
Air Pressure	4 - 6 bar
Air Consumption	20 ltr/min. max.

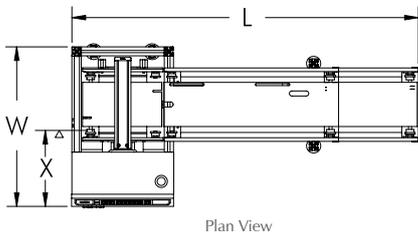
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
XL	NTM5300-X	700 x 1613 x 1381	234 mm	425 kg

AUTOMATIC LOADER

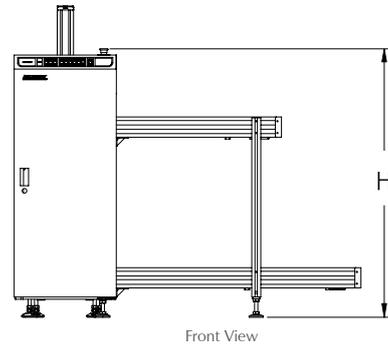


Features

- ❖ Sturdy and stable design
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Pneumatic clamps provided for magazine alignment
- ❖ Pneumatic pusher's pressure regulated
- ❖ High throughput with short magazine change-over time
- ❖ SMEMA compatible



Plan View



Front View

Legend
△ : Fixed Point

SPECIFICATIONS

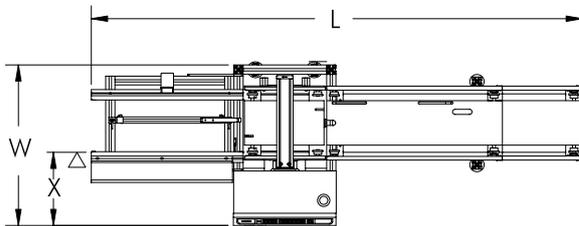
Description	This unit is used for loading of PCBs.
PCB Magazine	Specify upon order
No. of Magazines	Upper Conveyor: 2 magazines Lower Conveyor: 3 magazines
PCB Loading Time	Average 6 seconds
Magazine Change-over Time	Average 30 seconds or specify
Indexing Pitch	1 - 4 (10 mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	350VA max.
Air Pressure	4 - 6 bar
Air Consumption	10 ltr/min. max.
PCB Thickness	0.4 mm min.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	MFC0100LM	1700 x 790 x 1330	377 mm	145 kg
L	MFC0100LL	2480 x 940 x 1330	388 mm	220 kg

AUTOMATIC UNLOADER

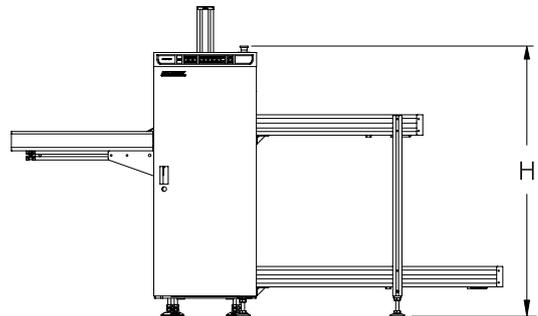
Features

- ❖ Includes pusher conveyor
- ❖ Adjustable pusher position
- ❖ Pneumatic pusher's pressure regulated
- ❖ Sturdy and stable design
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Pneumatic clamps provided for magazine alignment
- ❖ High throughput with short magazine change-over time
- ❖ SMEMA compatible



Legend
 △ : Fixed Point

Plan View



Front View

SPECIFICATIONS

Description	This unit is used for unloading of PCBs.
PCB Magazine	Specify upon order
No. of Magazines	Upper Conveyor: 2 magazines Lower Conveyor: 3 magazines
PCB Loading Time	Average 6 seconds
Magazine Change-over Time	Average 30 seconds or specify
Indexing Pitch	1 - 4 (10 mm pitch) or specify
Power Source	100, 230VAC 1Ph
Power Consumption	350VA max.
Air Pressure	4 - 6 bar
Air Consumption	10 ltr/min. max.
PCB Thickness	0.4 mm min.

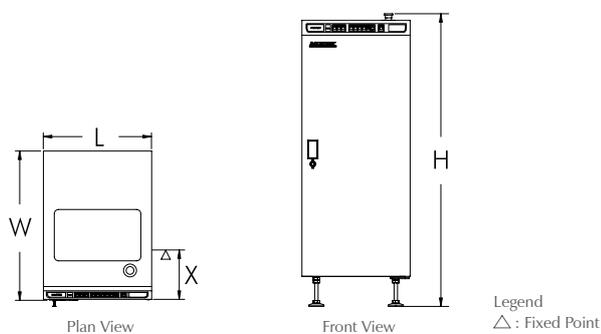
Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	MFC0100UM	2400 x 790 x 1330	377 mm	180 kg
L	MFC0100UL	3380 x 940 x 1330	388 mm	280 kg

BARE BOARD LOADER (WITH PASS THROUGH MODE)



Features

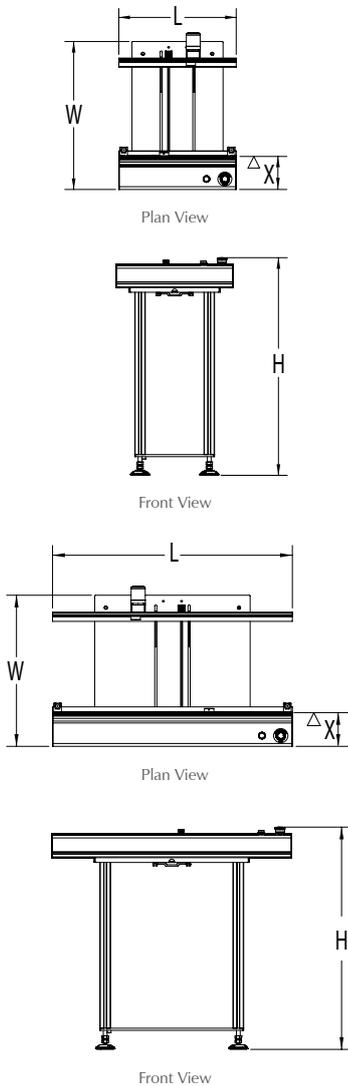
- ❖ Enclosed design ensures highest level of safety
- ❖ User friendly 'soft touch' LED membrane control panel
- ❖ Adjustable suction cup positions provide better grips of PCBs
- ❖ Smooth and parallel width adjustment
- ❖ Small machine footprint
- ❖ SMEMA compatible



SPECIFICATIONS	
Description	This unit is used for loading of bare PCBs to the production line.
Maximum PCBs Height	220 mm
Cycle Time	Average 10 seconds
Power Source	100, 230VAC 1Ph
Power Consumption	150VA max.
Air Pressure	4-6 bar
Air Consumption	30 ltr/min. max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	MFC0200PM	500 x 720 x 1380	234 mm	110 kg
L	MFC0200PL	653 x 840 x 1380	234 mm	140 kg

LINKING CONVEYOR (500 & 1000 MM)



Legend
△ : Fixed Point



Features

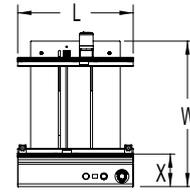
- ❖ Modular design
- ❖ Stability enhanced by 'robust design'
- ❖ Ergonomically designed arm rest
- ❖ Smooth and parallel width adjustment
- ❖ Multi-zone concept available upon request
- ❖ Different lengths available upon request
- ❖ SMEMA compatible
- ❖ Patented (SG Patent No: 91261)

SPECIFICATIONS

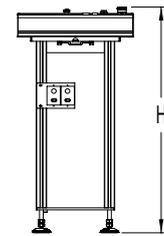
Description	This unit is used to link between SMD machines or board handling units.
Conveyor Concept	Belt
Conveyor Speed	14 m/min. or specify
Power Source	100, 230VAC 1Ph
Power Consumption	100VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	MFC0401-M	500 x 475 x 985	142 mm	30 kg
L	MFC0401-L	500 x 635 x 985	142 mm	35 kg
M	MFC0401-M	1000 x 475 x 985	142 mm	50 kg
L	MFC0401-L	1000 x 635 x 985	142 mm	55 kg

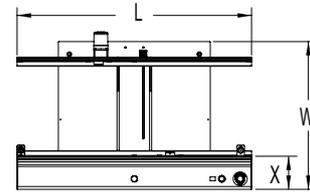
INSPECTION CONVEYOR (500 & 1000 MM)



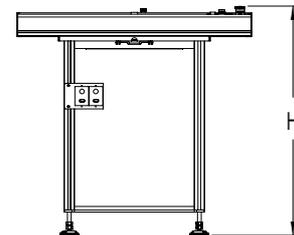
Plan View



Front View



Plan View



Front View

Legend
△ : Fixed Point

Features

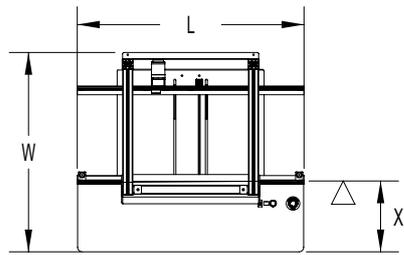
- ❖ Modular design
- ❖ Stability enhanced by 'robust design'
- ❖ Ergonomically designed arm rest
- ❖ Smooth and parallel width adjustment
- ❖ PCB inspection mode and bypass mode provided
- ❖ Multi-zone concept available upon request
- ❖ Different lengths available upon request
- ❖ Variable speed control
- ❖ SMEMA compatible
- ❖ Patented (SG Patent No: 91261)

SPECIFICATIONS

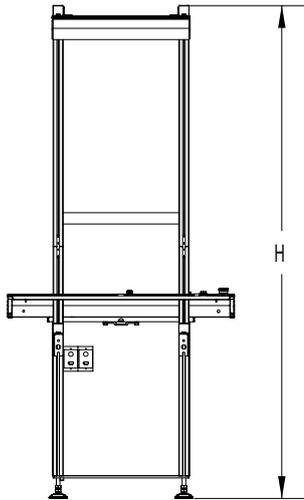
SPECIFICATIONS	
Description	This unit is used as a visual inspection station for operators between SMD machines or board handling units.
Conveyor Concept	Belt
Conveyor Speed	0.5 - 14 m/min. or specify
Power Source	100, 230VAC 1Ph
Power Consumption	100VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	MFC0501-M	500 x 475 x 985	142 mm	30 kg
L	MFC0501-L	500 x 635 x 985	142 mm	35 kg
M	MFC0501-M	1000 x 475 x 985	142 mm	50 kg
L	MFC0501-L	1000 x 635 x 985	142 mm	55 kg

WORK STATION (1000 MM)



Plan View



Front View

Legend
 △ : Fixed Point



Features

- ❖ Modular design
- ❖ Stability enhanced by 'robust design'
- ❖ PCB inspection mode and bypass mode provided
- ❖ Different lengths available upon request
- ❖ Multi-zone concept available upon request
- ❖ Equipped with lighting feature and bins bar
- ❖ Variable speed control
- ❖ SMEMA compatible
- ❖ Patented (SG Patent No: 91261)

SPECIFICATIONS

SPECIFICATIONS	
Description	This unit allows manual assembly work to be carried out.
Conveyor Concept	Belt
Conveyor Speed	0.5 - 14 m/min. or specify
Conveyor Length	1000 mm or specify
Power Source	100, 230VAC 1Ph
Power Consumption	200VA max.

Size	Model No.	Machine Dimension (mm) L x W x H	Fixed Point to Front Dimension (X)	Weight (Approximately)
M	MFC1800-M	1000 x 729 x 2190	315 mm	70 kg
L	MFC1800-L	1000 x 886 x 2190	315 mm	80 kg

CONVEYOR CHAINS

Pin Chain



Plastic Roller Chain



06B Slip Roller Chain



06B Chain





WORLDWIDE OFFICES

ASIA (Main Design & Manufacturing Centre)

Nutek Private Limited
 39, Joo Koon Circle
 Singapore 629105
 Tel: (65) 6862 0255
 Fax: (65) 6862 0040
 E-mail: info@nutek-sg.com
 Website: <http://www.nutek-sg.com>

CHINA

Room 1016, Huaihai China Tower
 885, Ren Min Road
 Shanghai 200010, China
 Tel: (86) 21 6355 3926/27
 Fax: (86) 21 6355 3933
 E-mail: info@nutek-china.com

AMERICAS

1811, Lefthand Circle, Suite B
 Longmont, Colorado 80501
 United States of America
 Tel: (1) 303 684 0400
 Fax: (1) 303 684 9886
 E-mail: info@nutekamericas.com
 Website: <http://www.nutekamericas.com>

EUROPE

Bliek 23, 4941 SG Raamsdonksveer
 The Netherlands
 Tel: (31) 162 578 578
 Fax: (31) 162 578 579
 E-mail: info@nutek-europe.com
 Website: <http://www.nutek-europe.com>

UNITED KINGDOM

Lodge Park, Lodge Lane
 Longham, Colchester
 Essex CO4 5NE
 United Kingdom
 Tel: (44) 1206 844 555
 Fax: (44) 1206 844 554
 E-mail: info@nutek-uk.com
 Website: <http://www.nutek-uk.com>

AUSTRALIA

75-77, Westgate Drive
 Altona North, Victoria 3025
 Australia
 Tel: (61) 3 8369 6600
 Fax: (61) 3 8368 2699
 E-mail: gcp@hrltd.com.au



Cert no: SG00/00097



Cert no: SG02/00116