

Fuji Scalable Placement Platform Machine Specifications

Model: NXT

Preliminary

FUJI[®] Machine Mfg. Co., Ltd.

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1. Introduction

1.1 Machine Outline

The NXT is not simply a placing machine, but is the result of Fuji's endeavor to provide a revolutionary new SMT line concept system, providing a total solution for the requirements of the next generation, today.

By incorporating unique technology to enable the machine to automatically adapt to high-mix, variable volume production, and extensive use of sensors to achieve reliable placement and quality management, this new machine represents innovation at the highest possible level.

Incorporating a flexible two type (M3 and M6) modular configuration, combined with a thorough effort to reduce both the size and cost of the machine to an absolute minimum has resulted in a more cost effective, more efficient machine with a greatly reduced footprint in comparison to previous generation machines.

1.2 Features

- The placing head is attached to the XY-robot, and offers the choice of an 8 nozzle, horizontal indexing type, or a single nozzle type for odd-formed and large parts, allowing flexible reconfiguration for a varied range of production tasks.
- This easily attached head enables ultra quick changeovers in response to changes in production volume and product type. Furthermore, downtime is reduced to an absolute minimum, as the operator is not required to perform any troublesome settings following head exchange.
- Maximum loading efficiency is realized using a double conveyor system, reducing panel loading time to zero.
- Stable parts supply performed using newly developed, low cost, easy to use motor powered feeders. Furthermore, efficiency is maximized with the ability to load replenished feeders and perform part splicing while the machine is operating.
- The user-friendly operation panel provides clear, intuitive, step-by-step operating instructions, making life easier even for the most inexperienced users. As a result, time spent on operator training is minimized, ensuring swift commencement of production following machine delivery.
Even when using a multiple module configuration, the modules function as a single machine during operation, and as individual units when performing maintenance.
- In addition to a comprehensive support system for program creation and production information, great efforts have been made to further enhance communication with the end user, and reduce downtime with swift solutions for trouble related issues. This has been achieved through liberal access to machine preventative maintenance and inspection related information, as well as an online support system.

2. Machine Data and Operating Environment

2.1 Machine Data and Operating Environment

- Power & Air Requirements

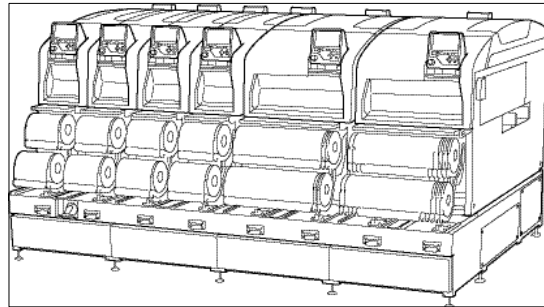
Voltage: 200 ~ 230V AC ($\pm 10\%$)
three-phase

Frequency: 50/60Hz

Power Consumption: Not currently available

Air pressure: 0.5MPa (ANR)

Air Consumption: 80 L/min. (ANR) (8 base machine)
40 L/min. (ANR) (4 base machine)
20 L/min. (ANR) (2 base machine)
+ 500 L/min. (ANR) (when using remover)



- System Components

XY-robot, PCB conveyors, part supply station, placing head, part recognition cameras, PCB mark recognition cameras.

- Display Panels

Monitor: Toggle between operation and image monitor

Display: Illustration based operation

- Weight

8-module type: 2800kg

4-module type: 1500kg

2-module type: 800kg

- Installation Environment

Temperature: 10° ~ 40° C

Humidity: 30% ~ 80% RH

- Machine Color

Body: Light Silver

White

Dark Gray

Notes: Power Source: 200 ~ 230V AC ($\pm 10\%$) three-phase

A dedicated power source, not shared with other large equipment, should be used in order to avoid problems with electrical noise, voltage fluctuations, high-frequency distortions, and other related problems.

IP22: IEC standardized protection against intrusion by body parts and water.

3. Machine Specifications

3.1 Machine Specifications

Items		Specifications
Parts Packaging	Part size	0603 ~ 74 x 74 mm (32 x 180): Limitations apply based on placing head (see later)
	Max part height	6.5 mm (25.4 mm): Limitations apply based on placing head (see later)
	Tape size	JEITA(formerly EIAJ), JIS standard tape parts 8 mm tape: 13 inch reels or smaller 12 ~ 88 mm tape: 15 inch reels or smaller
	Stick feeders	4 ≤ stick width ≤ 15 mm 15 ≤ stick width ≤ 32 mm
	Tray units	136 x 322.6 (JEDEC standard) (When using tray feeders) 335 x 330 mm (When using tray units)
	Other	JIS, JEITA(formerly EIAJ) standard tape parts, stick parts, tray parts etc. (Parts supported by EIA standard also supported by JEITA(formerly EIAJ))
Placing accuracy		± 0.04mm: 3σ, ± 0.08mm: 6σ [Chips (including 0603 (0201))] ± 0.025mm: 3σ, ± 0.05mm: 6σ [Leaded parts] Note: 1. Fiducial mark based referencing. 2. The placing accuracy above is based on tests conducted at Fuji. 3. Depending on the parts and the PCB fabrication accuracy, it may not be possible to guarantee the above placing values.
Placing reliability		99.99% (including automatic recovery)
Fiducial mark reading time		0.25 sec./mark Obtained when reading a 1.2 mm diameter mark, excluding the time required to travel from mark to mark, and to make adjustments for mark shape variations and location errors.
Warranty period		Warranty period for the equipment is 6000 working hours or 2 years (whichever elapses first). Warranty period for the control software is 2000 working hours or 1 year (whichever elapses first). Fuji will bear no responsibility for damage due to acts of nature (fire, flood, earthquake etc.) or incorrect operation.

3.2 Base Specifications

Base Type	8M	4M (Vacuum pump/CPU board)	4M (No Vacuum pump/CPU board)	2M (Pending)
Module Capacity (Based on M3 module)	8	4	4	2

Configure your machine from a selection of the base sizes in the table above and module types listed in the following module configuration section. When using two 4M bases in a line, it is only necessary to have one 4M base with a vacuum and CPU board.

3.3 Module Specifications

Items		M3 Module	M6 Module
Module width		325 mm *	650 mm *
Placing heads		Choice of H08 or H01 (one touch replacement feature)	
Packaging	Tape	W8 ~ W88 mm	
	Stick	✓	✓
	Tray feeder	X	Max. 2 units
	Tray unit	X	Max. 1 unit
Reject Parts Conveyor	L size	✓	✓
	S size	✓	✓
Capacity (Using 8 mm tape)		20	45
PCB support		Auto back-up pin position function (option)	

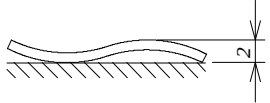
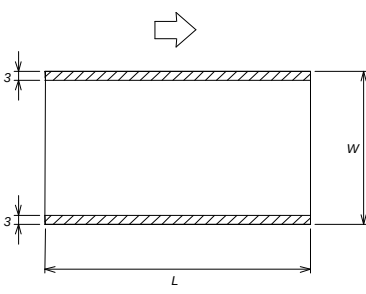
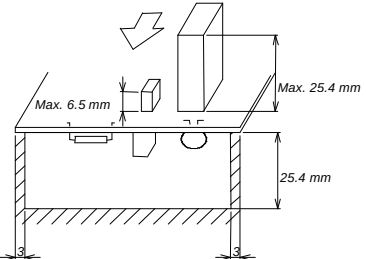
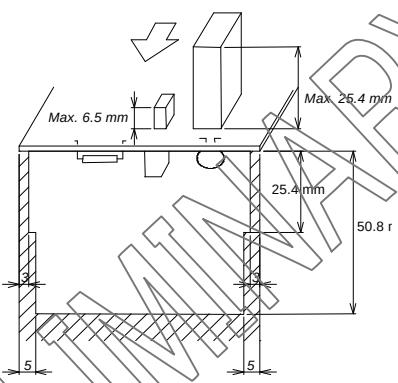
* A gap of 5 mm between each module has been added to the above figures for module width. The actual dimensions for the above modules are 320 mm (M3) and 645 mm (M6) respectively.

3.4 Placing Head Specifications

Items	H08 *	H01
No. of nozzles	8	1
Part size	0603 ~ 7.5 x 7.5 mm (12 x 12 mm when using 4 nozzles)	3216 ~ 74 x 74 mm (32 x 160)
Max. part height	6.5 mm	25.4 mm
Max. part height (upper surface)	6.5 mm	25.4 mm
Packaging	W8 ~ 12 (W16 if using 4 nozzles)	W8 ~ W88 Trays, stick feeders
Placing accuracy	± 0.04	± 0.025
Throughput (CPH (chip/hour))	10000	3600
Nozzle change	✓	✓
Insertion pressure control	X	✓

* Can be used as a 4-nozzle head if every second nozzle on the 8-nozzle head is skipped.

3.5 PCBs

Items	Specifications
PCB size	Min. 50(W) x 50(L) ~ Max. 510(W) x 534(L) Thickness: 0.4 ~ 6 mm $\pm 10\%$ (Consult Fuji regarding the use of PCBs with thickness less than 0.4 mm) Note: 1. Double conveyors can handle PCBs up to 280(W) mm. PCBs larger than 280(W) mm must be produced on the single-conveyor. 2. PCBs thinner than 0.4 mm are supported as an option. 3. Consult with Fuji in advance regarding PCB support measures.
Materials	Glass-epoxy, composite, paper phenol, alumina, polyimide etc. (Please consult with Fuji regarding support for ceramic PCBs)
PCB conditions	Warpage: Max. 2.0 mm  [When using back-up pins] Premounted part height: Max. 6.5 mm (when using H08 head) Max. 25.4 mm (when using H01 head) Premounted part height on lower surface: Max. 25.4 mm (50.8 mm if no back-up pins used.)  Front  Rear [Without back-up pins]  Rear * No premounted parts possible in the shaded areas. * 3 mm of dead space on both edges of the PCB are required for clamping.

3.6 PCB Conveyance

Items		Specifications
Flow direction		Left to right, right to left
Conveyor height		900 ^(+15,-5) mm (950 ^(+15,-5) mm) The conveyor height is specified at the time of order
Conveyor type		Belt conveyance
Loading time	Double conveyor	Continuous operation: 0 sec.
	Single conveyor	3 sec. (using only M3 modules)
		4 sec. (using only M6 modules)
PCB weight		Max. 1kg (Support for PCBs up to 2kg with roller conveyor.)
Conveyor width adjustment		Fixed front reference rail with servo motor assisted adjustable side.

4. Machine Structure

4.1 Machine Base

The base is the foundation upon which the modules are mounted. Bases are available in three sizes (2-base, 4-base, and 8-base), depending on the line configuration.

4.2 Modules

Each module comprises an XY-robot, placing head, PCB conveyor, PCB clamber, feeder pallet, and vision system cameras.

Two sizes of modules are available: a 325(W) mm M3 module, and a 650(W) mm M6 module. Reconfiguration of the line is made simple with a module change unit that can be used to quickly remove and replace modules.

4.3 Placing Heads

Depending on the parts being handled, two different, easily exchangeable head types are available: H08 (8 nozzles), and the H01 (single nozzle).

4.4 Main Conveyor

The NXT PCB conveyance system provides shock-free transport of the PCB, with a servo driven, conveyor width adjustment function, and simple PCB flow direction change capabilities.

Independently adjustable conveyors minimize the Y-axis stroke by bringing the PCB on the secondary conveyor closer to the feeder pallet, therefore increasing productivity. However, a dedicated back-up plate is required for support of this feature.

When the standard back-up plate is used, the secondary conveyor front rail is fixed at a position based on a 280 mm wide PCB on the primary conveyor. The Y-axis stroke, however, is lengthened when placing on the PCB held by the secondary conveyor in the case where the standard back-up plate is fitted.

4.5 Parts Camera Unit

Each module is equipped with a fixed parts camera unit which is used to acquire the part image and perform the necessary compensation for placement.

All parts are processed using frontlighting.

Lighting	Frontlight	
Field of View	50 mm x 50 mm *	
Applicable parts	Rectangular chips, SOIC, QFP (leaded parts)	BGA, CSP (parts with solder balls)
	Min. pitch: 0.24 Min. width/diameter: 0.12 Min. gap between parts: 0.12	Min. pitch: 0.40 Min. width/diameter: 0.25 Min. gap between parts: 0.15

* Images for parts over 45 x 45 mm in size are acquired incrementally and processed as one complete image.

4.6 Mark Camera Unit

Camera units attached to each head are used to process the PCB fiducial marks in order to compensate for PCB misalignment and warpage etc. by offsetting the part placing position.

Furthermore, PCB type recognition is achieved by reading a 2D code.

Field of View	9.1 mm x 9.1 mm
Fiducial mark size	Min. 0.5 mm ~ (Further specifications are identical to fiducial mark cameras employed on previous machines.)
2D PCB codes	QR-code, Data Matrix

4.7 Nozzle Types

The H01 and H08 placing heads hold 1 and 8 nozzles respectively. Supported nozzles for each head are listed in the table below.

Head Type	Nozzle Diameter (mm)
H08	0.6 x 0.3
	1.0 x 0.5
	1.0
	1.3
	1.8
	2.5
	3.7
	5.0
	5.0G
	1.3M
	2.5M

Head Type	Nozzle Diameter (mm)
H01	1.0
	1.3
	1.8
	2.5
	3.7
	5.0
	5.0G
	7.0
	7.0G
	10.0
	10.0G
	15.0
	15.0G
	20.0
	20.0G

Note:

- The "G" suffix on the end of the nozzle size indicates nozzles fitted with a rubber pad.
- The "M" suffix on the end of the nozzle size indicates nozzles designed for MELF parts.

4.8 Feeder Pallet

This highly flexible feeder loading unit allows feeders to be replaced during production, and supports batch replacement using a dedicated feeder pallet change unit. Pallet sizes differ depending on the module size used. A waste tape cutter box is fitted below the feeder mounting area.

Feeder Type		Slots Required	M3 Feeder Capacity	M6 Feeder Capacity
W8 7" reel		1	20	45
W8 13" reel		2	9	22
W12		2	9	22
W16		2	9	22
W24		3	6	15
W32		4	5	11
W44		5	4	9
W56		6	3	7
W72		7	2	6
W88		8	2	5
Stick Feeders	Single S1	2	9	22
	Single S2	2	9	22
	Single L1	4	4	11
	Single L2	4	4	11

Feeder Loading Table		Right Side												
Left Side	Feeder Type	W8	W12	W16	W24	W32	W32J	W44	W56	W72	W88	Stick Feeders		W8 13"
												Single S1, S2	Single L1, L2	
	W8	1P	2P	2P	2P	3P	3P	3P	4P	4P	5P	2P	3P	2P
	W12	2P	2P	2P	3P	3P	3P	3P	4P	5P	5P	2P	3P	2P
	W16	2P	2P	2P	3P	3P	3P	4P	4P	5P	5P	2P	3P	2P
	W24	2P	3P	3P	3P	3P	3P	4P	4P	5P	6P	3P	3P	2P
	W32	3P	3P	3P	4P	4P	4P	4P	5P	5P	6P	3P	4P	3P
	W32J	3P	3P	3P	4P	4P	4P	4P	5P	5P	6P	3P	4P	3P
	W44	3P	4P	4P	4P	4P	4P	5P	5P	6P	7P	4P	4P	3P
	W56	4P	4P	4P	5P	5P	5P	5P	6P	6P	7P	4P	5P	4P
	W72	4P	5P	5P	5P	5P	5P	6P	6P	7P	8P	5P	5P	5P
Stick Feeders	W88	5P	5P	6P	6P	6P	6P	7P	7P	8P	8P	6P	6P	5P
	Single S1, S2	2P	2P	2P	3P	3P	3P	4P	4P	5P	5P	2P	3P	2P
	Single L1, L2	3P	3P	3P	4P	4P	4P	4P	5P	5P	6P	3P	4P	3P
W8 13"		2P	2P	2P	2P	3P	3P	4P	4P	4P	5P	2P	3P	2P

Note: This table represents a view of the feeders from the operator's side.

5. Machine Control System

5.1 Machine Control Specifications

Item	Specifications
Coordinate input method	Absolute
Acceleration control (placing head)	Acceleration/deceleration setting possible (3 stages)
Controllable axes	A total of 4 ~ 6 axes: X, Y, Z, Q, XS, R (no. of axes differs depending on the module and head configurations.) * The XS-axis is found only on the M3 module. * The R-axis is found only the H08 head.
Maximum number of input sequences	5000 sequences/PCB
Program storage capacity	Max. 10 programs
Data input method (units)	Fuji Flexa X-, Y-, Z-axes: 0.01 mm Q-axis: 0.01°
Communication	Network based (Ethernet)
Optical correction	For PCB positioning and part pick-up displacement

Notes:

1. *Data communication is performed using the Fuji Flexa host system.
A computer and host software are required in order to run Fuji Flexa.
It is necessary to prepare the host computer prior to taking receipt of your machine.*
2. *It is necessary to prepare an Ethernet cable prior to taking receipt of your machine.
(10 base-T cable, category 5 (100 m range))*

6. Standard Functionality

6.1 Parts Height Detection (H08 head)

The part height detection function enables population of the PCB with parts placed at optimum height.

Note: This feature comes installed on the H08 head

6.2 Pick-up Position Detection

Pick-up accuracy is guaranteed by performing automatic pick-up position detection immediately after feeder replacement, pallet exchange, and placing head exchange.

6.3 Shared Production Mode (M3 module)

Production is shared between two modules when PCBs exceeding 250 mm in length are produced on M3 modules.

The machine heads can place parts in the production area of the adjacent module, therefore eliminating any dead space.

6.4 Nozzle Station

This unit holds the nozzles used for automatic nozzle change by the placing head and differs depending on the placing head and module types.

Nozzle station units can be replaced quickly and easily, with identification of new units performed using the auto recognition function.

Unit Type	S32	M03	M08	M08L
Socket Qty.	32	3	8	8
Supported Nozzles	H08-type	H01-type		
Module Type	M3, M6	M3	M6	M6 (adjacent to MTU)

7. Options

7.1 Classification by Installation Status

The following options are available in order to further enhance the machine's functionality.

The options are classified into those that are installed during machine assembly, and those that are installed upon purchasing individual units. Furthermore, it is also possible to install options on-site (charge incurred) even after the assembled machine has been shipped.

[Classification]

A: Installed during machine assembly

B: On-site option installation possible

C: Supported with purchase of individual unit.

No.	Options	Class
1	Device pallet	C
2	Feeder loading stand	C
3	PCU (Pallet Change Unit)	C
4	MCU (Module Change Unit)	C
5	Nozzles	C
6	Parts reject conveyor	C
7	Waste tape disposal unit	A or B
8	Feeders	C
9	Feeder stand	C
10	Placing pressure control	A or B
11	Coplanarity sensor	A or B
12	Splicing jig	C
13	Tray units	C
14	Tray feeders	C
15	Nozzle blockage check	A or B
16	Height detection sensor	A or B
17	Roller conveyor	A
18	PCB support	A or B
19	Vacuum back-up pin unit	A or B
20	Auto PCB support	C
21	Additional support for various PCB thicknesses	A
22	Support kit for strip tape	C

<Other>

- Please consult with Fuji regarding support of non-standardized items.
- Please feel free to talk to the Fuji sales team regarding customization of your order or clarification of any points in this document.

7.2 Details of Options

Details of supported options are provided below.

7.2.1 Device Pallet

Spare pallets are available to enable batch changeover of feeders.

7.2.2 Feeder Loading Stand

The feeder loading stand is used to fix feeders in position, enabling quick and easy part reel setting.

7.2.3 PCU (Pallet Change Unit)

Feeder pallet units are available for quick and easy replacement of feeder pallets. There are two separate types for the M3 and M6 modules.

7.2.4 MCU (Module Change Unit)

The one module change unit can be used to replace both M3 and M6 type modules.

7.2.5 Nozzles

Spare nozzles are available to supplement the existing set of nozzles provided with the machine. These nozzles are categorized as consumable accessories.

Head Type	Nozzle Diameter (mm)
H08	0.6 x 0.3
	1.0 x 0.5
	1.0
	1.3
	1.8
	2.5
	3.7
	5.0
	5.0G
	1.3M
	2.5M

Head Type	Nozzle Diameter (mm)
H01	1.0
	1.3
	1.8
	2.5
	3.7
	5.0
	5.0G
	7.0
	7.0G
	10.0
	10.0G
	15.0
	15.0G
	20.0
	20.0G

- The "G" suffix on the end of the nozzle size indicates nozzles fitted with a rubber pad.
- The "M" suffix on the end of the nozzle size indicates nozzles designed for MELF parts.

7.2.6 Parts Reject Conveyor

The reject parts device, available in both S and L sizes, is loaded on the feeder pallet.

7.2.7 Waste Tape Disposal Unit

Waste tape is cut and collected in the waste tape box.

7.2.8 Feeders

The NXT supports tape feeders as well as stick feeders. Tray units are also supported when using the M6 type module.
The same dual-purpose 8 mm feeder is used for both paper and embossed tape.

1. The following packaging types are available.

Feeder Type	Tape Width	Feed Pitch	Package Type
Tape feeders	8 ~ 88 mm (tape)	<W8 mm> P1,2,4 (variable) <W12 mm ~> P4 x n (variable)	Paper Embossed
Stick feeders	Stick width: W $7 \leq W \leq 28$ mm $25 \leq W \leq 48$ mm		Stick

2. Points to note regarding tape feeders

- A switch on the feeder allows the feeding pitch to be set in multiples of 4 mm for W12 tape feeders and wider.

7.2.9 Feeder Stand

The feeder stand is a double rack stand designed to accommodate tape feeders and stick feeders.

Each rack can hold a total of 45 feeders when using all 8 mm feeders.

As with the feeder pallet, feeders are arranged on the rack with a 20 mm gap between each feeder. For feeders that exceed 20 mm in width, it is necessary to load the feeders appropriately to ensure a sufficient gap between them.

7.2.10 Placing Pressure Control

The nozzle height is detected prior to placing the part, and the placing pressure is applied to the part by controlling the amount of force applied to the nozzle. This function is enabled using a spring to provide variable pressure.

7.2.11 Coplanarity Sensor

This function is designed to detect bent leads on leaded parts such as QFPs etc.

7.2.12 Splicing Jig

This jig facilitates the splicing of new tape to the end of the almost spent tape. A cutter is used to cut the tape at the position where the tape pitch apertures on the new tape line up with the existing tape. Finally, the splicing jig is used to join the two reels.

7.2.13 Tray Units

The tray unit is available for the M6 module only.

No. of drawers	20 drawers (Max. height 7.8 mm per drawer) 6 drawers for stacked trays (Max. height 32 mm/drawer)
Tray size	Max. 330 x 335 mm (Two trays possible if under 160 x 335 mm)
Attachment method	• Secured on machine (Exchangeable with feeder pallet.) • Loaded on M6 module
Remarks	• Direct part pick-up • Remover supported when stacking trays • Parts reject facility available

7.2.14 Tray Feeders

Up to two tray feeders can be loaded on M6 modules only.

No. of drawers	10 drawers (1 tray per drawer)
Tray size	136 x 322.6 (JEDEC standard)
Attachment method	• Loaded on pallet • Loaded on M6 module
Remarks	• Direct part pick-up • A maximum of 2 tray feeders may be loaded on each stage. • Up to 20 feeder slots are available when using only one tray feeder.

7.2.15 Nozzle Blockage Check

Prevention of potential pick-up and placing irregularities with sensor used to identify defective nozzles.

7.2.16 Height Detection Sensor

Accurate pick-up and placing height are guaranteed using a sensor mounted on the placing head to detect both the pick-up and placing height.
Use of these sensors, however, will adversely affect the overall cycle time.

7.2.17 Roller conveyor

PCB conveyance is improved using rollers located underneath the conveyor belt. This type of conveyor is required when the total weight of the PCB (including a supporting pallet) is between 1 and 2kg.

7.2.18 PCB Support

Standard pins are supplied with the machine, however, dedicated back-up pins are available on request.
Back-up pin positioning is performed manually.

7.2.19 Vacuum Back-up Pin Unit

Vacuum back-up pins are available for additional PCB support.
A vacuum supply unit is required for vacuum back-up pins.

Note: Panel loading time is longer when using vacuum back-up pins.

7.2.20 Auto PCB Support

Dedicated back-up pins, back-up plate and software are required for compatibility with the auto PCB support facility.

7.2.21 Additional Support for Various PCB Thicknesses

Support for PCBs thinner than 0.4 mm (0.3 mm minimum) is available.
(Please contact Fuji for further details.)

7.2.22 Support Kit for Strip Tape

Kit to provide support for strip tape.

8. NXT Related Software

8.1 NXT Related Software

8.1.1 Engineering Panel

The Engineering Panel is a handheld computer used to assist with machine maintenance and inspection etc. Dedicated software is required to drive this powerful machine assistant.

The Engineering Panel features the following functions.

- Data management
- Data editing
- Maintenance support

Note: The engineering panel can also be used to access the Fuji Flexa Editor by remote control in order to support the teaching function.

8.1.2 Fujitrax

This comprehensive Realtime Administration System incorporates not only verification functionality designed to eliminate part and feeder loading misses, but also offers advanced part administration capabilities for all the machines on the line. By administering data relating to part type, remaining parts, individual part reels, splicing information, and device slot information (as specified in the production information (recipe)), significant increases in part supply and replenishment efficiency are realized, in addition to ensuring the elimination of defective panels.

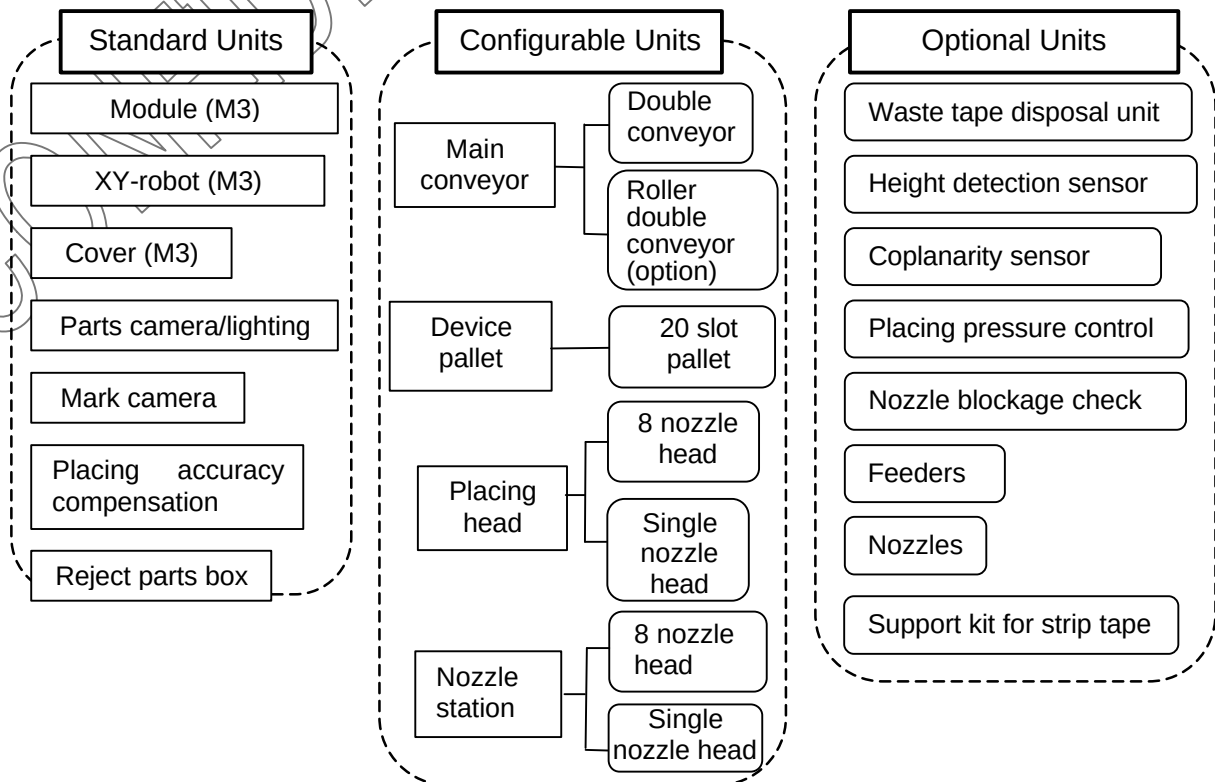
Note: Hardware required for use with the Fujitrax software is supplied separately.

8.1.3 Fuji Flexa

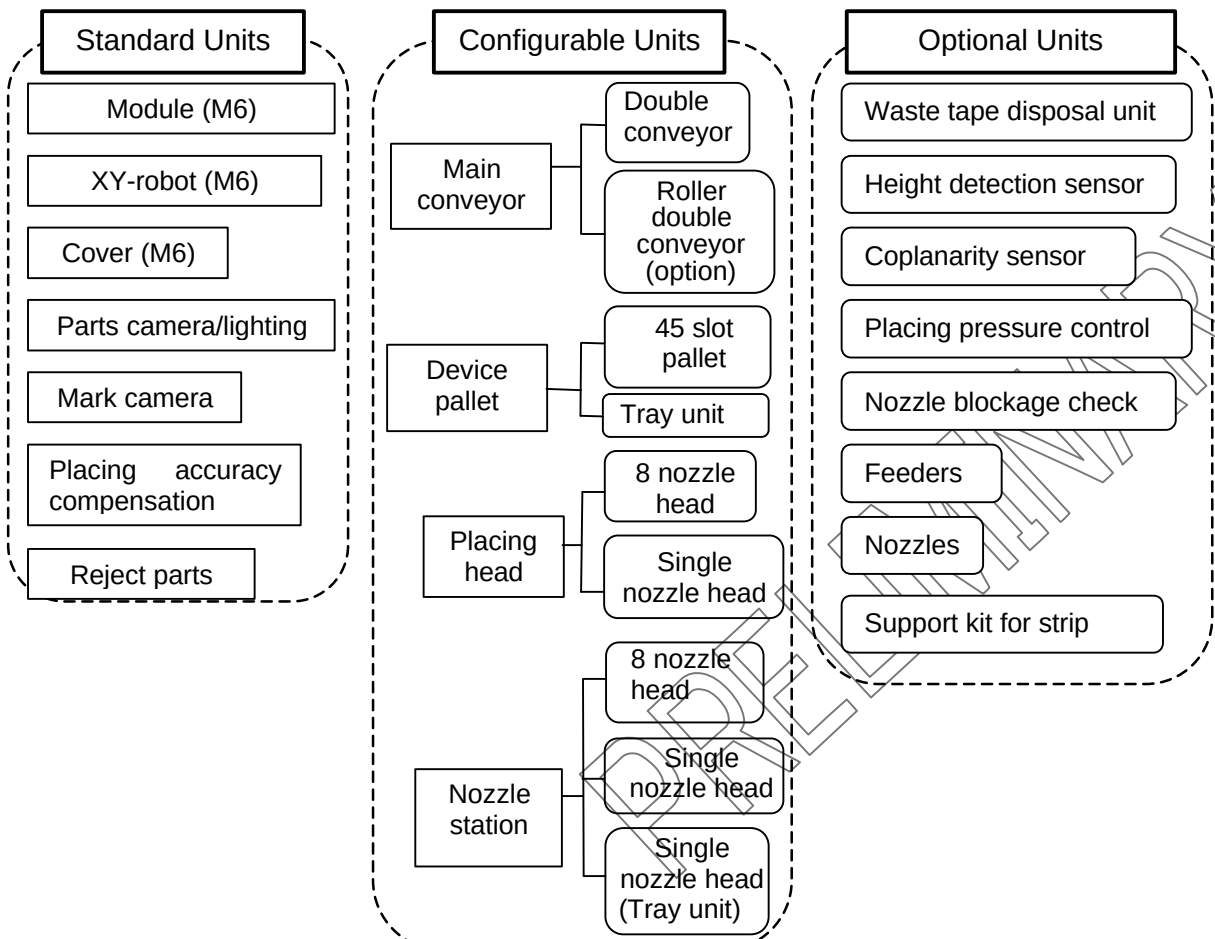
The Fuji Flexa host software is designed for creation of production programs, control of the machines, and the acquisition of production information. Administration of job data for the NXT should be performed using Fuji Flexa.

9. Module Configuration

9.1.1 M3 Module Configuration



9.1.2 M6 Module Configuration



10. Peripheral Equipment

10.1 Peripheral Equipment

The following peripheral equipment is available.

10.1.1 Double-Conveyor

The double-conveyor is fitted as standard, and is designed to reduce PCB loading time to zero. The conveyor width is adjusted automatically.

10.1.2 Buffer-Conveyor

Used during short periods of inactivity.
Stocks up to 4 PCBs at a time.

10.1.3 Shuttle-Conveyor

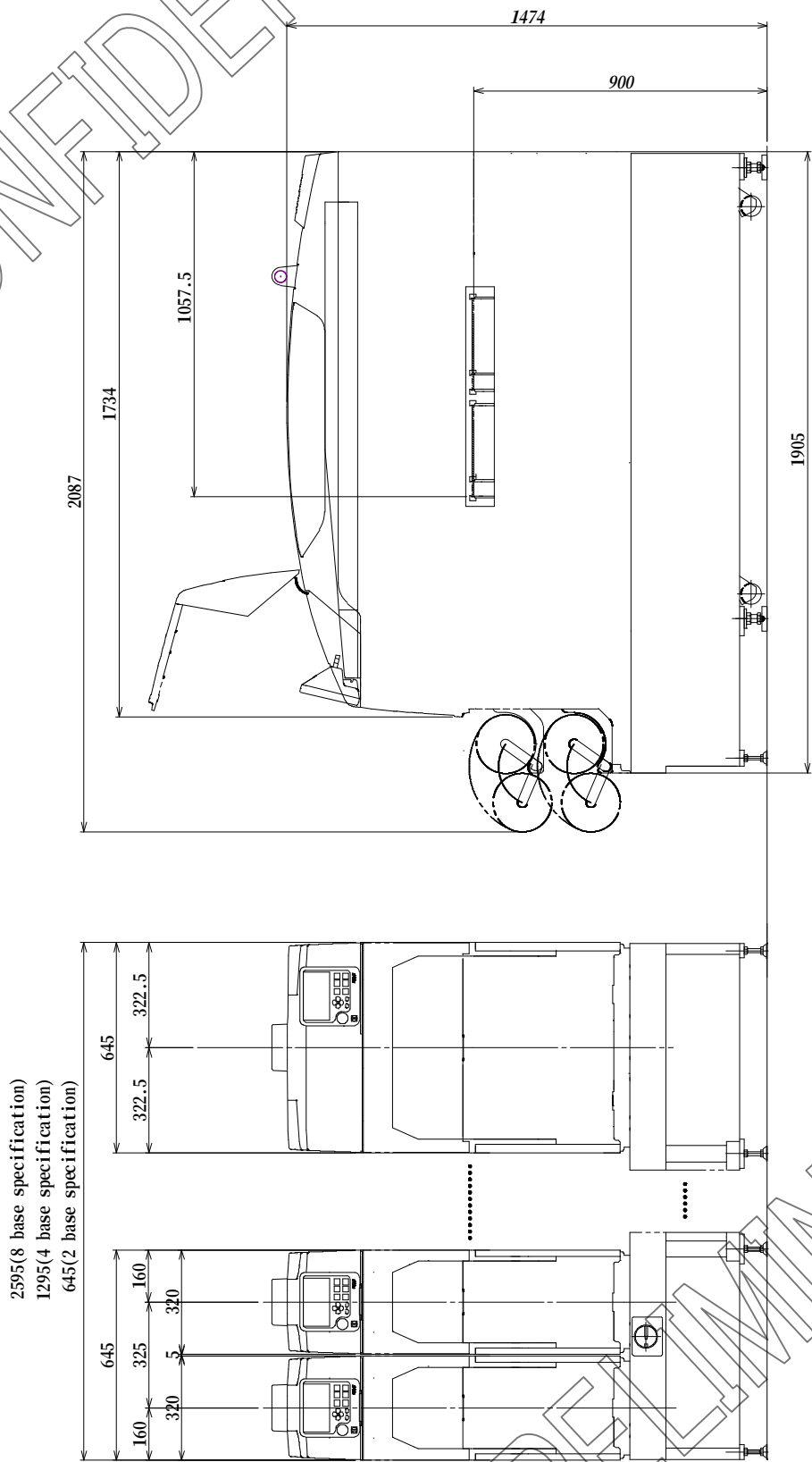
This device is designed to allow easy switching from standard to reverse PCB flow direction.

10.1.4 Other

It is possible to load either a double-conveyor or shuttle conveyor into the line after removing a module from its base.

11. Machine Illustrations

11.1 Dimensions



Units: mm

No.	Options	Development Status
6.1	Part height detection (H08 head)	Under Development
6.2	Pick-up position detection	Supported
6.3	Shared production mode (M3 module)	Under development
6.4	Nozzle station	Supported
7.2.1	Device pallet	Supported
7.2.2	Feeder loading stand	Supported
7.2.3	PCU (Pallet Change Unit)	Supported
7.2.4	MCU (Module Change Unit)	Supported
7.2.5	Nozzles	Supported
7.2.6	Parts reject conveyor	Supported
7.2.7	Waste tape disposal unit	Supported
7.2.8	Feeders	*1
7.2.9	Feeder stand	Supported
7.2.10	Placing pressure control	Under development
7.2.11	Coplanarity sensor	Under development
7.2.12	Splicing jig	Supported
7.2.13	Tray units	Under development
7.2.14	Tray feeders	Under development
7.2.15	Nozzle blockage check	Under development
7.2.16	Height detection sensor	Under development
7.2.17	Roller conveyor	Under development
7.2.18	PCB support	Supported
7.2.19	Vacuum back-up pin unit	Under development
7.2.20	Auto PCB support	Supported
7.2.21	Additional support for various PCB thicknesses	Under development
8.1.1	Engineering panel	Supported
8.1.2	Fujitrax	Under development
8.1.3	Fuji Flexa	Supported
10.1.1	Double-conveyor	Supported
10.1.2	Buffer-conveyor	Under development
10.1.3	Shuttle-conveyor	Supported
10.1.4	Other	Under development

*1. 8 ~ 56 mm feeders are supported. 72 mm and 88 mm feeders are under development.