

## SELECTIVE SOLDERING SYSTEMS

# AF Series

Economical equipment

Easy maintenance

Easy operation

# AF 4050A

# AF iN4050A

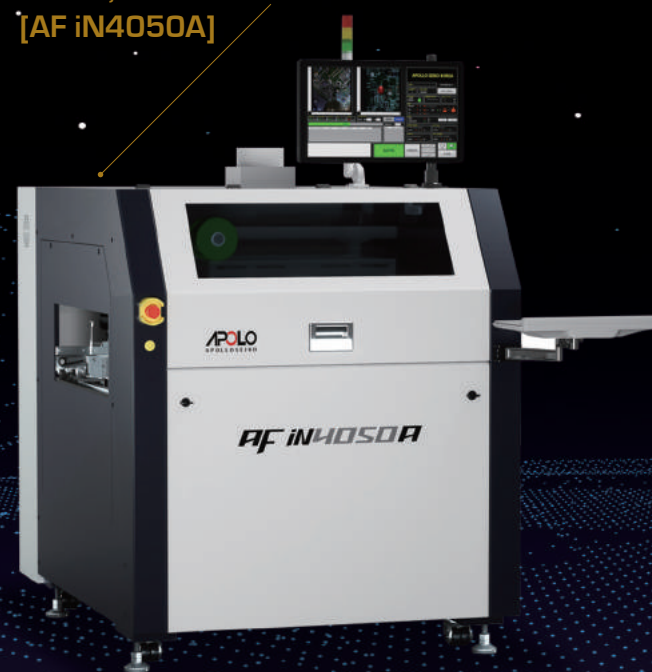
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Off-Line, All-in-one  
[AF 4050A]



In-Line, All-in-one  
[AF iN4050A]





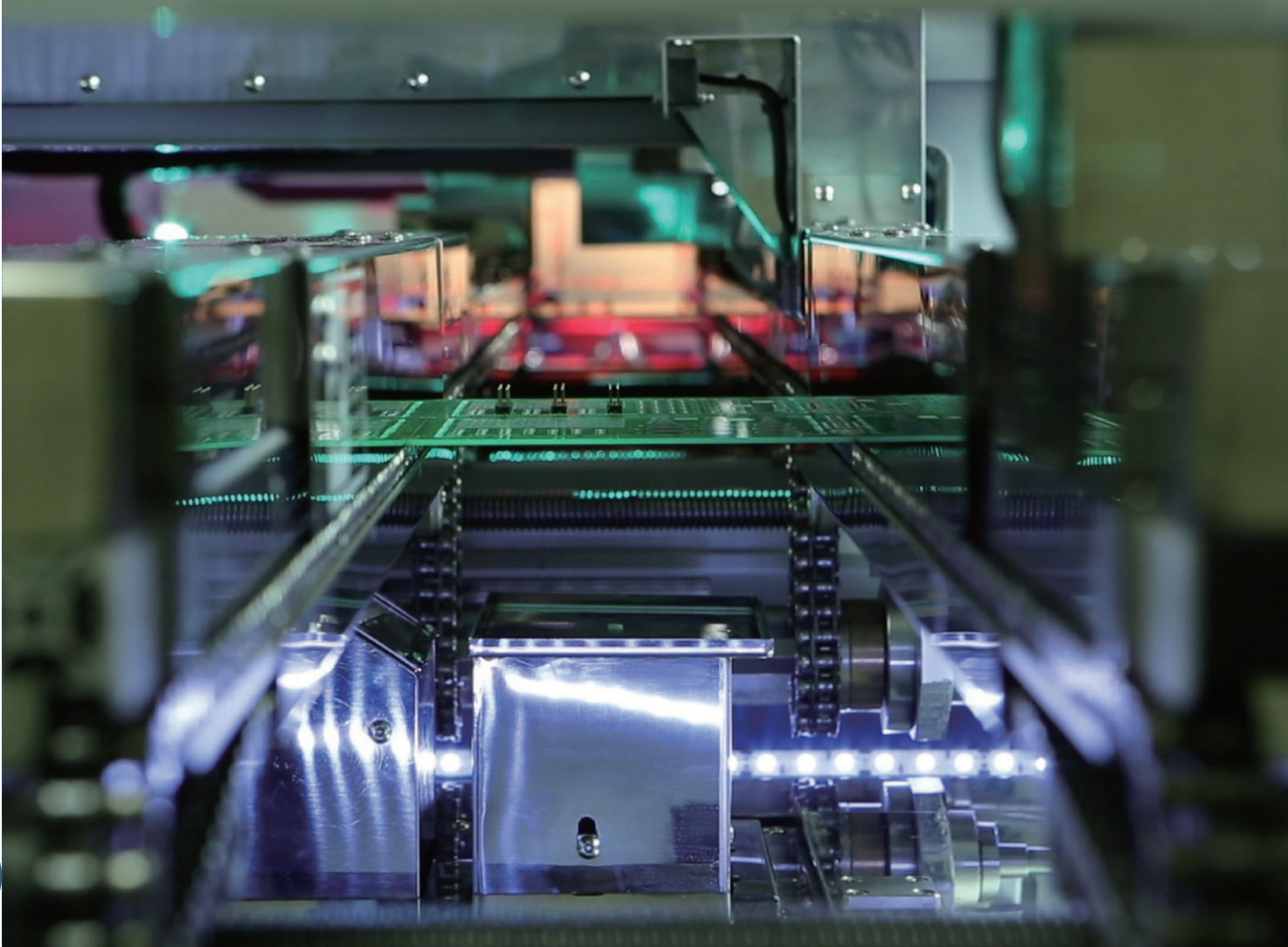
**AF iN4050**

IN-Line  
[AF iN4050] Z3



IN-Line  
[AF iN4050] Z4







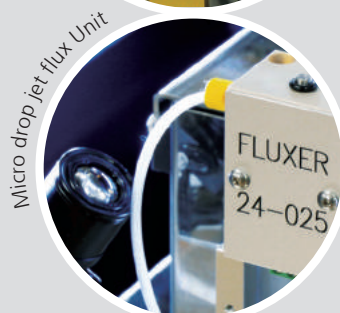
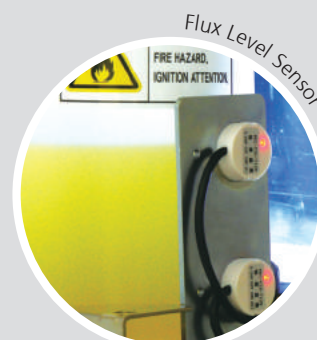
# Flux unit – much faster !! more accurate

## Convenience

1. 2L flux bottle
2. Level sensor to check residual amount of flux
3. Flux usage and residual amount displayed on program screen

## Various

1. Each point spray or line spray is possible
2. It can change the spray time and control the movement speed of spray zone.



## Precision

1. The Fiducial recognition vision is applied to automatically compensate for difference of product and Fixture(pallet) position
2. The Micro Drop Jet flux unit spray only the correct amount of flux

## Monitoring

1. Monitoring the process of flux spray with the Live Camera
2. Checking that the flux is sprayed well by the flux detection sensor (Option)





# Preheater - Keeping the same temperature !!

## Fast temperature feedback !!

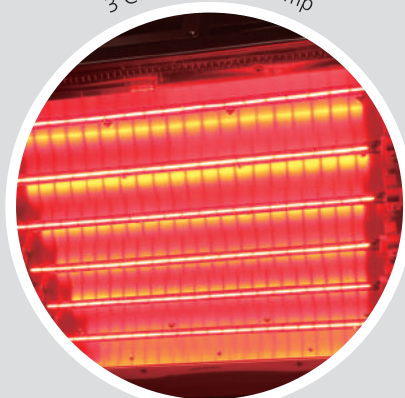
### Convenience

1. Automatically preheater channel turns on / turns off according to product or PCB size

### Various

1. Upper and lower 3 channels of IR Lamp
2. Various setting of preheating temperature
3. Setting preheating in 3 ways
  - 1) Solder after preheating
  - 2) with preheating and soldering
  - 3) Without preheating

3 Channels of IR Lamp

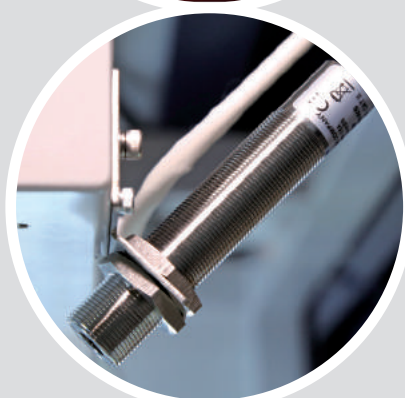


### Precision

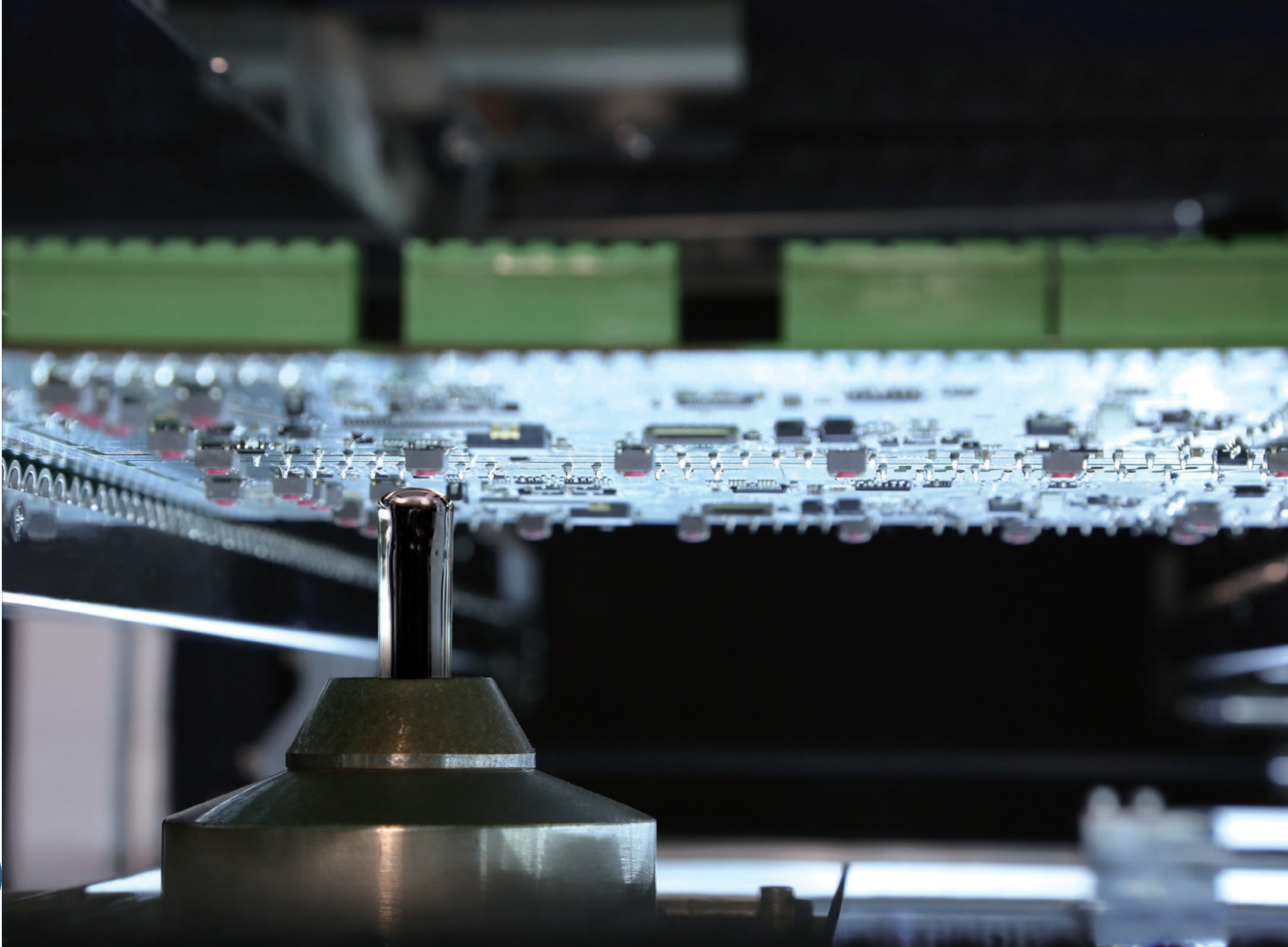
1. The temperature control range of the preheater is 50°C to 150°C
2. Feedback system to keep temperature constant when set temperature is reached

### Monitoring

1. Infrared temperature sensor measures heating temperature of product and then feedback
2. The current heating temperature of the product in real time displayed on program screen



IR temperature sensor





# Solder - Patented solder pot system !!

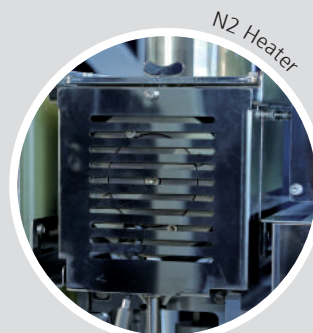
## Setting various conditions!!

### Convenience

1. Easy replacement of solder pot and nozzle
2. Convenient functions required for soldering process
3. Production preparation and program execution with one click

### Various

1. Various setting of solder pot temperature
2. It can create many different programs
3. Keep preheat temperature constant with upper preheater
4. **Patent No. : 10 - 1544676**



### Precision

1. Feedback system to keep the temperature constant when the solder pot reaches on the set temperature
2. The Fiducial recognition vision is applied to automatically compensate for difference of product and Fixture(pallet) position

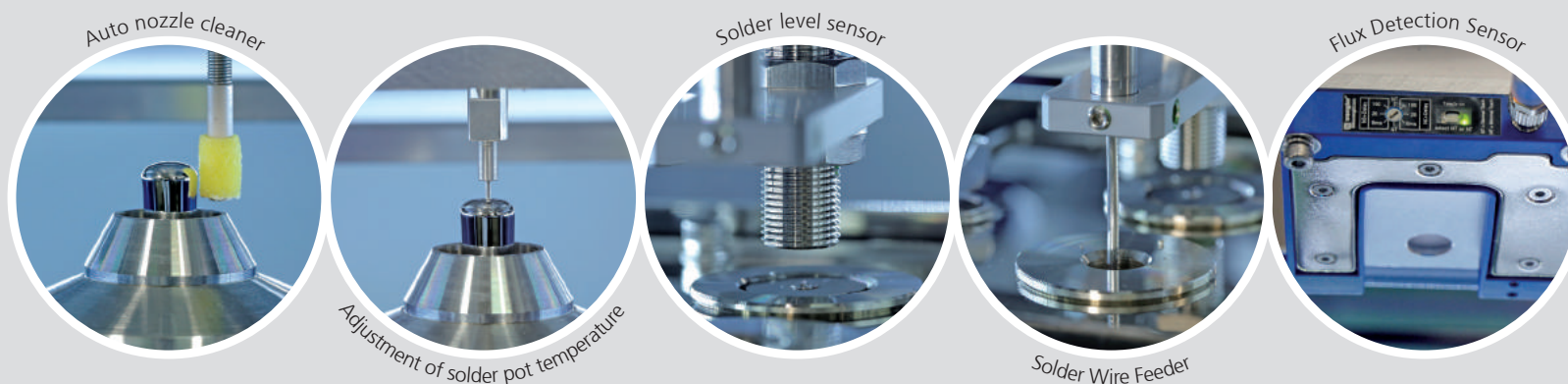
### Monitoring

1. Monitoring the process of soldering process with the Live Camera
2. Sequentially track and monitoring of programmed coordinates and conditions





## Utility - Machine with various convenience functions!



### Auto solder feeder

A unit that supplies solder wire for set time

### Solder level sensor

A Unit that automatically checks solder amount of the solder pot and maintains solder level in the solder pot

### Auto flow height adjustment

A unit that constantly adjusts the flow height of the nozzle tip

### Auto nozzle cleaner

A unit that automatically optimizes the flow by cleaning the nozzle

**patent No. : 10 - 1625151**

### Adjustment of solder pot temperature

A unit that automatically adjusts the temperature of the solder pot by measuring the temperature on the tip of the nozzle

### N2 Heater

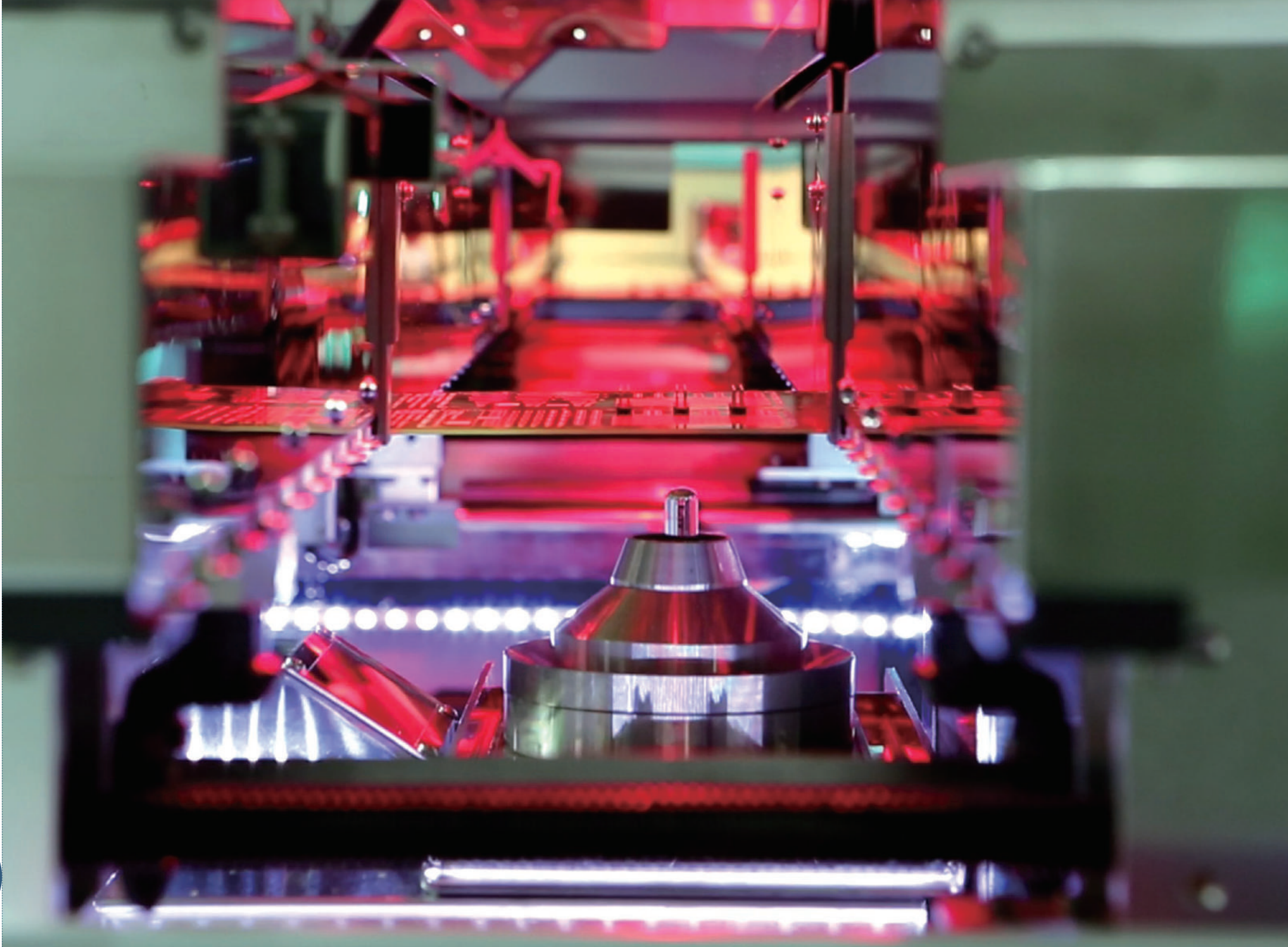
A Unit that heats the nitrogen coming into the solder pot

### N2 purity check unit

A Unit that checks the purity of nitrogen supplied to the solder pot (Option)

### MES(Manufacturing Execution System)

A program to manage soldering process and condition history (Option)





## AF iN4050

- As In Line Machine
- Machine consisting of three modules :  
Flux module, Preheater module, Solder module



- ▶ Auto flow height adjustment by touch probe
- ▶ Auto nozzle cleaner
- ▶ Auto solder feeder & solder level sensor
- ▶ Auto adjustment of coordinates by the FIDUCIAL VISION
- ▶ Automatic adjustment of solder pot temperature
- ▶ Preheater : Top 3ch IR heater, Bottom 3ch IR heater
- ▶ Save of the soldering video & Management of the soldering condition(MES/Option)
- ▶ Language support (Korean, English, Japanese, Chinese)
- ▶ Remote control support by internet

### Size

#### ▶ AF iN4050

1. Flux & Preheater : 2000(W) X 1640(L) X 1551(H)
2. Solder : 1300(W) X 1640(L) X 1551(H)
3. Working Area(X x Y) : 500 X 400mm

#### ▶ AF iN2535

1. Flux & Preheater : 1850(W) X 1490(L) X 1551(H)
2. Solder : 1150(W) X 1490(L) X 1551(H)
3. Working Area(X x Y) : 350 X 250mm



## APOLLOSEIKO

CVW( 134 mm)

QUANTITY  
80

CYCLE TIME  
00:00:00

END TIME  
00:00:00

FILE OPEN

FLUX LEVEL  
USAGE  
0.00000 L

POSITION ADJUST  
POSITION ADJ.

NOZZLE SIZE  
Φ 10.0 mm

TEMP.  
PRE HEAT 32 °C 70 °C PRE HEAT  
SOLDER 280 °C 280 °C ADJUST 0 °C  
N2 260 °C 260 °C

FLOW  
FLOW 553 rpm 585 rpm  
FLOW ADJUST -31 rpm

FLOW START STOP

FLOW ADJUST  
AUTO FLOW ADJUST  
CYCLE 0 / 10 CY

POT LEVEL CHECK AND FEED  
AUTO POT LEVEL CHECK AND FEED  
CYCLE 0 / 20 CY

POT CLEANING  
AUTO NOZZLE CLEANING  
CYCLE 0 / 10 CY

MAIN AIR 0.56 Mpa  
FLUX TANK 29.0 kpa  
N2 FLOW 15.1 l/min  
N2 PRE 0.16 Mpa  
O2 PPM 0000 ppm

STEP BLOCK  
ALL FROM 1 TO 2

FLUX SOLDER

0%

| NO. | X AXIS | Y AXIS | X/Y SPEED | JOB | WAIT |
|-----|--------|--------|-----------|-----|------|
| 1   | 359.17 | 406.17 | 400       | D   | 0    |
| 2   | 359.17 | 353.89 | 30        | E   | 0    |

WORK NO. P 0

| NAME | VALUE1 | VALUE2 |
|------|--------|--------|
|      |        |        |

17:12:38: TEMP. ADJUST START  
17:12:07: Level Check:Level = 2.7 mmH Limit(2mm)  
17:11:55: Start Lead Check P1  
17:11:20: Level Check:Level = 2.7 mmH Limit(2mm)  
17:11:08: Start Lead Check P1  
17:10:43: Start Lead Check P1

AUTO MODE

CANCEL

PRODUCT LOADING  
PRODUCT UNLOADING  
NOZZLE MANAGEMENT POSITION

FLUX SOLDER

CLOSE

language

Maintenance

Program

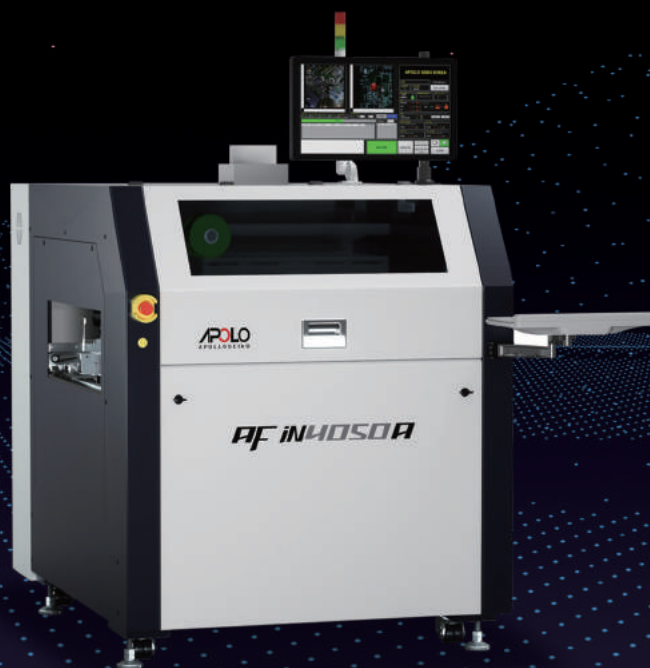
System

14



## AF iN4050A

- As In Line Machine
- Machine consisting of one modules :  
Flux & Top preheater & Solder module



- ▶ Auto flow height adjustment by touch probe
- ▶ Auto nozzle cleaner
- ▶ Auto solder feeder & solder level sensor
- ▶ Auto adjustment of coordinates by the FIDUCIAL VISION
- ▶ Automatic adjustment of solder pot temperature
- ▶ Preheater : Top 3ch IR heater
- ▶ Save of the soldering video & Management of the soldering condition(MES/Option)
- ▶ Language support (Korean, English, Japanese, Chinese)
- ▶ Remote control support by internet

### Size

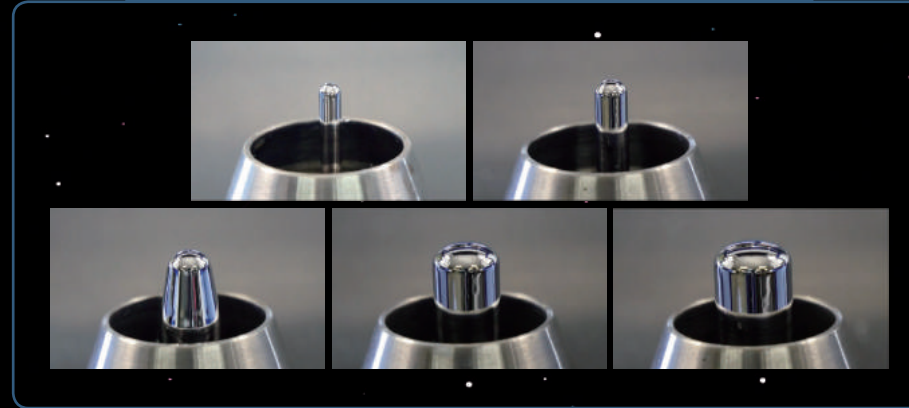
#### ▶ AF iN4050A

1. Size : 1300(W) X 1640(L) X 1551(H)
2. Working Area(X x Y) : 500 X 400mm

#### ▶ AF iN2535A

1. Size : 1150(W) X 1490(L) X 1551(H)
2. Working Area(X x Y) : 350 X 250mm

Standard Type(Circle)



Customization Type(Circle)



Customization Type(Rectangle, Multi)





# AF 4050A

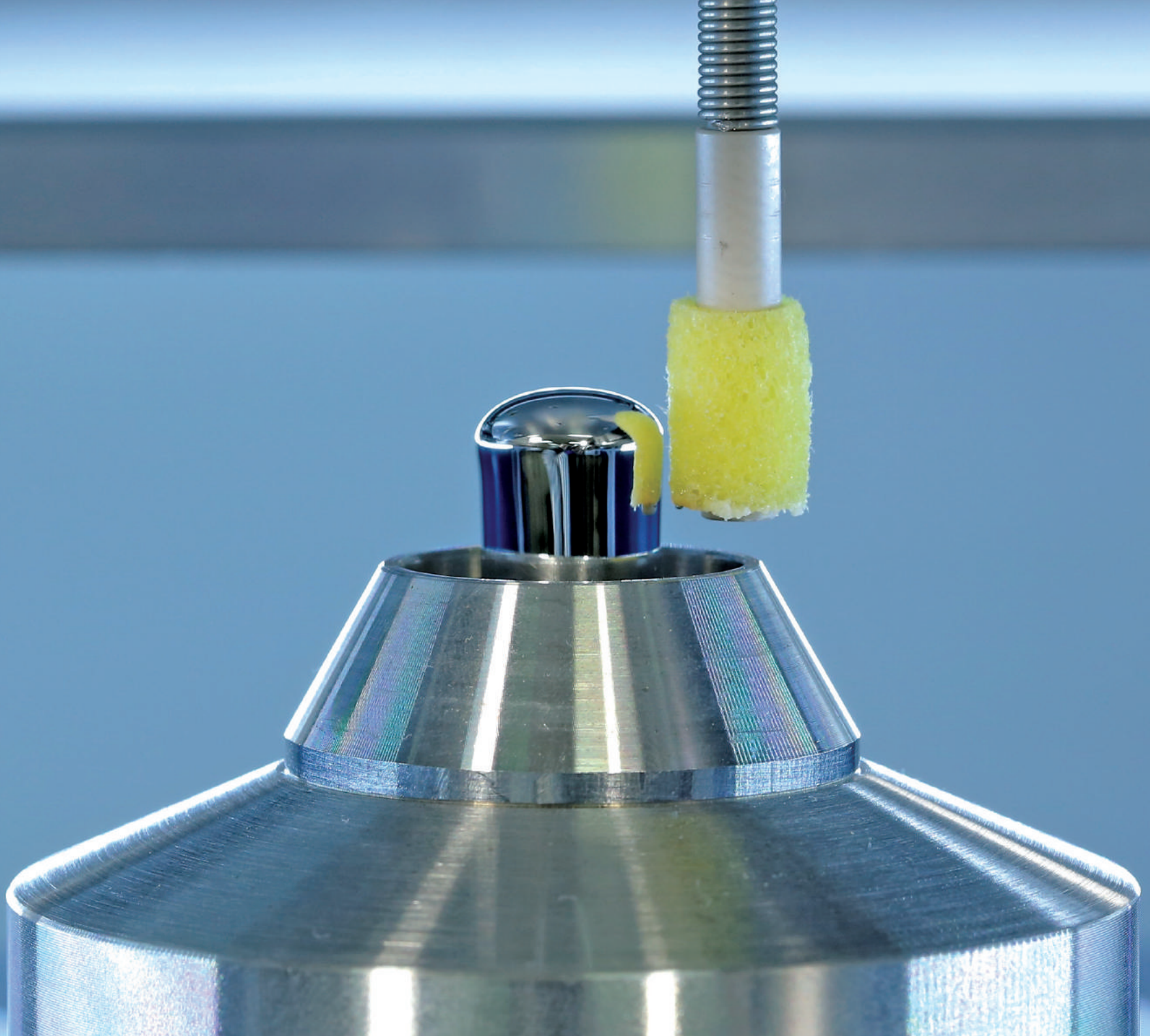
- As Off Line Machine
- Machine consisting of one modules :  
Flux & Top preheater & Solder module



- ▶ Auto flow height adjustment by touch probe
- ▶ Auto nozzle cleaner
- ▶ Auto solder feeder & solder level sensor
- ▶ Auto adjustment of coordinates by the FIDUCIAL VISION
- ▶ Automatic adjustment of solder pot temperature
- ▶ Preheater : Top 3ch IR heater
- ▶ Save of the soldering video & Management of the soldering condition(MES/Option)
- ▶ Language support (Korean, English, Japanese, Chinese)
- ▶ Remote control support by internet
- ▶ Products loading mode : Auto shuttle

## Size

- ▶ AF 4050A
  1. Size : 1200(W) X 1930(L) X 1551(H)
  2. Working Area(X x Y) : 500 X 400mm
- ▶ AF 2535A
  1. Size : 1050(W) X 1780(L) X 1551(H)
  2. Working Area(X x Y) : 350 X 250mm





## Patented technology for selective soldering



**Title of the Invention**  
**Nozzle rotating cleaning device**

Patent Number 10-1625151



**Title of the Invention**  
**Vertically coupled pumping Pot**

Patent Number 10-1544676





## Offices

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