

## MS7000 Nano-Rework Station

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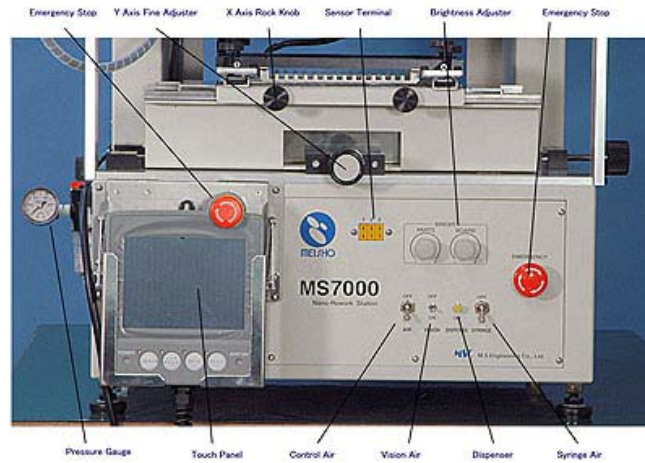
MS7000 is rework system for the chip parts from 0402(EIA 01005), furthermore it is possible for rework of BGA and CSP. The dispenser for tip parts is equipped as standard, and also the cleaner of solder is prepared as the option.



- | Tweezers head of original development can be rework of 0402 chip parts exactly.
- | Furthermore, if the specially tweezers are used, it will be able to respond also 0402.
- | Reworking of CSP is also possible if it exchanges for the CSP nozzle head.
- | Exactly solder supplying is possible by the special dispenser which our original.
- | Solder cleaning for 0402 is possible by the optional unit. BGA, CSP also possible.
- | High magnification vision system provided of high accuracy positioning.
- | High magnification external CCD camera can check of cleaning and dispensing situation.

### Outline of Operation

MS7000 is manual rework system for chip size parts as 0402. The parts is supplied from the special palette. The parts can be picked up by a special tweezers which our original developed. And the parts can be positioning by the high magnification vision system. The tweezers can be rework of a high density mount board. It is possible of 0.2 mm or less of the gap between the parts. The solder paste supply is also by the special dispenser which our original developed of the pen-cylinder type. It will be supply the solder paste of very small quantity and exactly. Furthermore, cleaning of the solder paste on the board is also possible, it is in the minute area as 0402 or 0402.



MS7000 has high magnification vision system and also external CCD camera system. The vision system is for positioning of the parts and pick-up of the chip size parts. The CCD camera system is for situation check of the solder printing, cleaning and out side view of the parts. They are 300 magnification maximum with zooming, and also with auto-focus. Top heating system is by hot Air, and bottom heater is by IR system, They are our original developed high efficiency heating system. They can create to lead free profile with easy and exactly.

## Operation System



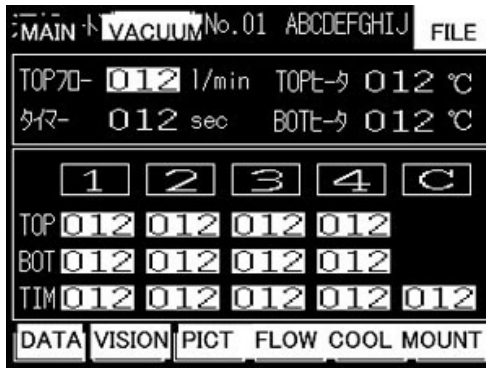
Example of an Interlock Screen.  
There are 25 kinds of interlock messages.

Operation is very easy, and 25 kinds of the interlock message will be support of safety operation of the machine.

And there are two kinds of the foot switch, There are for solder dispense, and for solder cleaning. Those functions will be support for exactly operation of the machine.

## Operation Data

The control data is in-put from the keyboard, The keyboard will appear, if the screen is touched. It is very easy and exactly.



入力値 : ABCDEFGHIJ									
A	B	C	D	E	F	7	8	9	
G	H	I	J	K	L	4	5	6	
M	N	O	P	Q	R	1	2	3	
S	T	U	V	W	X	0	-		ENT
Y	Z	DEL	AC	SP					

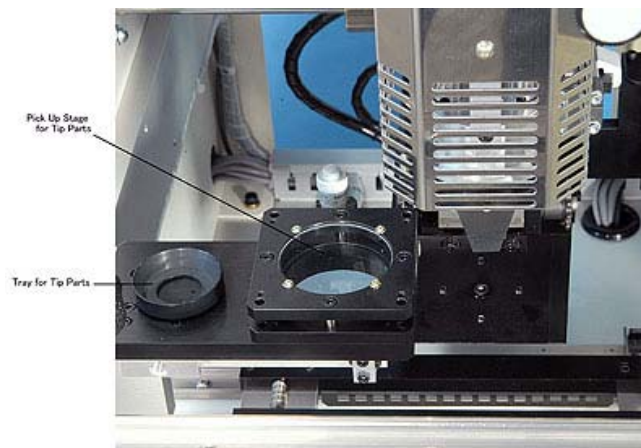
Key Board

Input data into a cooling zone and four heating zones, and they are for the top heater and the bottom heater each. The time of each zone is also inputted.

Temperature measuring can be 3 CH maximum, They are for CA-K type sensor. The sensor kit (ST50K) is prepared for easy and correctly setting to the package on the board.

Data can be saved a maximum 70 files, and a file is managed by the number and the message.

## Chip Parts Mount



The central glass palette is the supply table of chip parts as 0402.

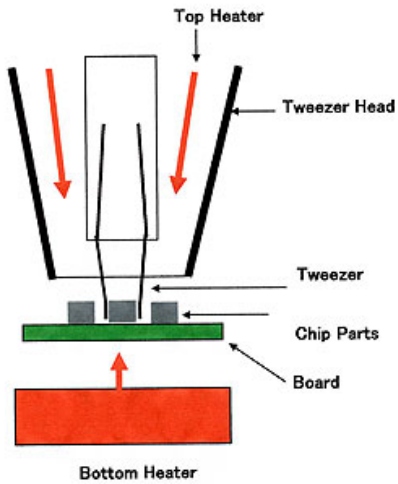
Chip parts are supplied at random on the circular glass palette. And chip parts can be check on the monitor, It is because, the vision system is checking the image from under the glass. The circular glass palette can be moves as left and right, and also rotation. The position of the chip parts should be adjusted so that the tweezers head can be pickup correctly.

The vision system can be magnification of maximum 300 on the monitor. It can be check even as 0402 chip parts.



Tweezers head is able to supplied to each of the size of the chip. The tweezers head can be take up exactly, if there are 200 microns or more of gaps between of the chip parts.

## Chip Parts Nozzle

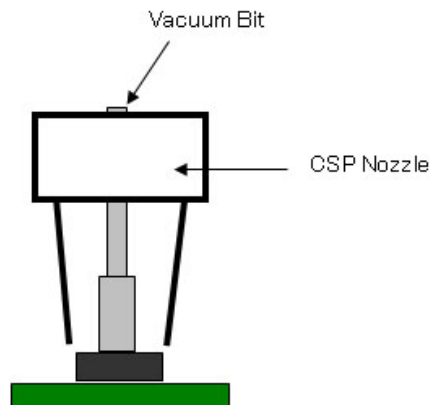


**Tweezers is holds of the chip size parts.**



The tweezers head can be change to the vacuum bit. And also other optional head as cleaning. By exchange of the head with bit, It can respond to almost all SMD like BGA,QFP, etc.

## The nozzle for CSP



MS7000 can be rework of the CSP and BGA; in that case, the nozzle must be exchange to the CSP nozzle instead of the tweezers nozzle. And also the vacuum bit must be used instead of the tweezers bit.

The nozzle for CSP is providing to the request of the size of the package.

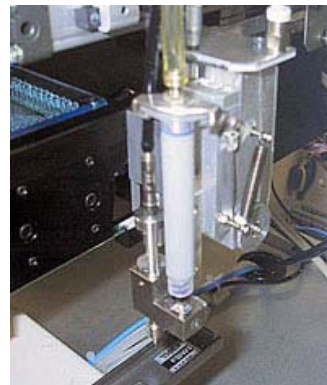
## Cleaning and Dispense

Cleaning of solder for very narrow area such as 0402 is used of the cleaning head instead of reflow nozzle. And the probe is used in case of BGA, CSP etc, in this case, exchange of the head is unnecessary.

It is the system which suck up the solder which has melted by the vacuum. This unit is supplied as an option.



NV2300 Solder Cleaner  
(Option)



Dispenser

MS7000 also has a dispenser, It is our original developed system. It can be dispense of the solder paste even to very narrow are,such as 0402.

Dispenser has 5cc syringe, normally attached needle is 0.25mm diameter. it is for 0402 chip parts. This is our original development cylinder type dispense system. It can supply of the solder paste of small quantity such as to the 0402 land.

It is the system of sending out the solder paste of required quantity by the linear cylinder. the operation is by pedal switch.

## External CCD Camera



The external ccd camera is uses at dispense of the solder to a narrow area, and the time of cleaning. The camera can be expanded of 300 maximum magnifications, therefore, it can be check 0402 chip size parts clearly. Of course, appearance check of the parts after rework is also possible. It moves freely and the position of the camera is fixable.

## Accessories

1. Power Cable x 1
2. Air tube 6.0mmD x 1
3. Under Board support Pin system ( 2 rail with 4 pins)
4. Tweezers Head (for 0402) x 1
5. 5cc Syringe x 1
6. Board Hold Jig x 4

## Options

1. Tweezers Head (for required size)
2. CSP Nozzle (for require size)
3. Center Vacuum Bit for Nozzle
4. NV2300 Solder Cleaner (for Tip parts Land)
5. Solder Paste with 5cc syringe (for Tip Parts Land)
6. MS7000-FDR 8mm Tape Feeder (for Tip Parts)



NV2300 Solder Cleaner



MS7000-FDR Tape Feeder Jig for Tip Parts.

## Specifications

Item	Specifications
Board size	50x50---100x150mm
Thickness	0.5--2.5mm
Weight	1Kg max.
Top Space	up to 25mm max.
Bottom Space	up to 25mm max.
XY Table Fine Adjust	+&- 7.5mm max.
Moving Range	100x>100mm max.
Board Holder	Z Slot or Holder Jig
Board Support	Under side 4 pins by 2 rails
Z Axis	Manual
Accuracy	Repetition Accuracy: +&-:0.025mm
Adjustable Angle	Nozzle Angle Adjuster:+&- 5 degrees
Vision System	Component Size: 0402--27BGA
Magnification	:zooming x300 max.
Focus	Auto/Manual selectable
Monitor	14inch High resolution color monitor.
Dispenser	5cc+0.25mm needle
Heater System	Top by Hot air 260x4=1040VA
	Bottom by IR 680VA (60x200mm )
Controller	Touched Panel System
Control System	PID control
Manual Mode	4+1 zones PID Control
Data Setting	Top heater: 000---450
	Bottom Heater: 000---600
Time Range	Heating: 000----999 sec.
	Cooling: 000----999 sec. (Manual/Auto)
Temp. Measuring	3 CH by CA-K sensor
Data Save	80 files max.
Solder Cleaner	Vacuum (option)
Power	220-240V AC 2 phase 2.0KVA
Air	0.5Mpa (N2 possible)
Dimension	510Wx630Dx800Hmm
Weight	85Kg approximate.

The specification are subject to change without notice.