

J-CAT CMS

Metal Sleeve Soldering Robot

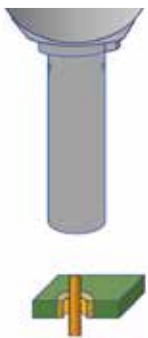
Cell production type

The J-CAT CMS is the latest sleeve-type soldering robot that adopts a metal sleeve. By adopting a cartridge heater for the lightweight and compact head, it is possible to insert the sleeve into narrow spaces.

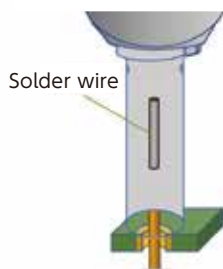
Patented



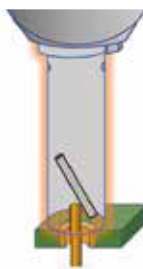
Sleeve Soldering Mechanism



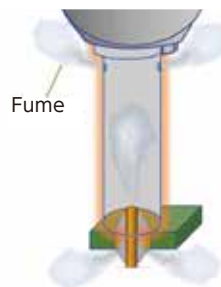
The CMS head moves to a specified position.



After pre-heating the pad or land by the sleeve, the solder wire is then cut and dropped into the solder joint area.



The solder wire is heated up and melts inside the sleeve.



The solder melts smoothly because the flux fumes are exhausted through the vent holes on the sleeve.



The entire amount of solder is fed, completely melts and is delivered to the solder joint to ensure consistent solder results.

No spattering or solder balls

When the solder is supplied to the work area or when the solder melts, the sleeve creates a closed space, preventing solder balls and flux spatter.

Barrel fill and perfect back fillet

Utilizing flux that melts at a lower temperature compared to conventional solder wire, it flows along the pins before the solder melts. So, it makes through-hole and back fillet soldering easy.

Ensures a constant amount of solder

It cuts the solder wire to the set amount, then supplies it to the work point, and then melts the solder.

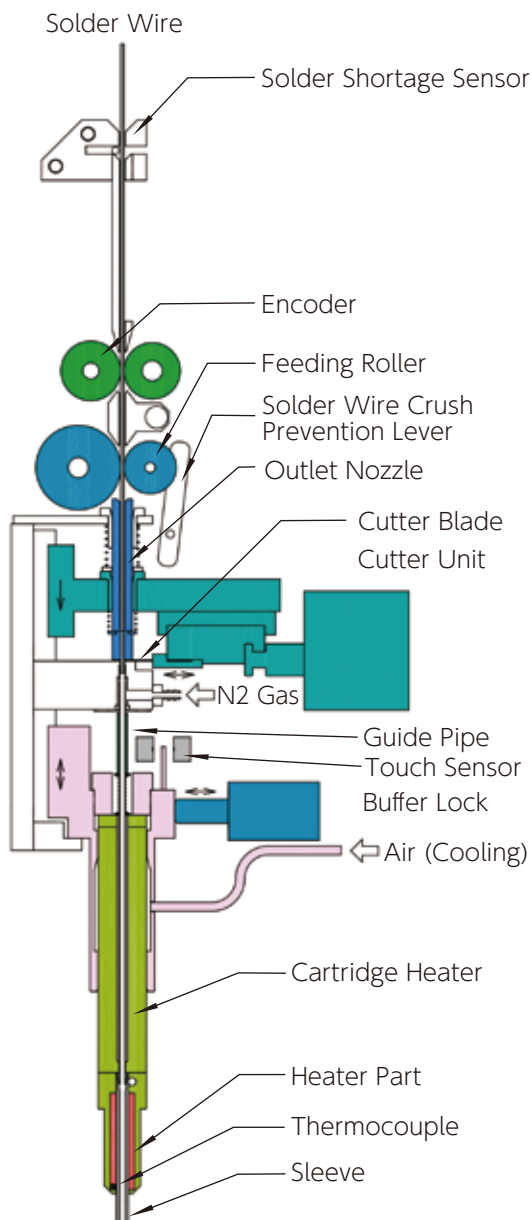
As the solder does not get wet within the sleeve, all the cut solder is supplied to the point to ensure the consistency in the amount of solder.

No position variation due to tip erosion

With iron tip soldering, position variation occurs when using a new iron tip compared to using an old one which has been worn down through use.

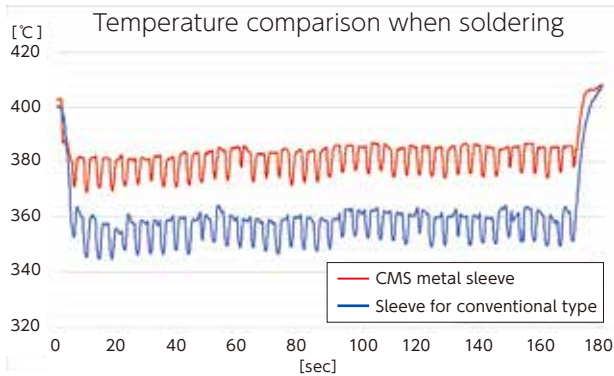
Since the sleeve does not get wet with solder, the sleeve tip does not incur erosion.

CMS Head Structure



Metal sleeve

Because of the highly conductive metal used in the unique design, soldering temperature is minimized and the recovery time is much faster.



Nitrogen gas generator APN-01 (Standard)

This is an N2 dispenser designed specifically for use with Apollo Seiko N2 tips.

The gas passes through from the inside of a cartridge heater to the inside of the sleeve and is discharged from the tip of the sleeve. It can solder in a nitrogen gas atmosphere.



Touch sensor / Buffer lock

When the sleeve tip touches the work, it stops to move in the Z direction. The buffer lock function registers the Z height, and it fixes the height of the sleeve tip.

With the buffer lock set as a reference height, Z is always soldered at a constant height.

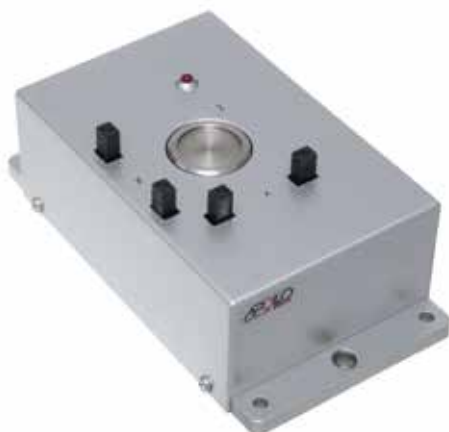
Cartridge heater

The shape of the cartridge heater is slim, and it is designed to be used in narrow spaces such as high-density PCB layouts. It has higher power and a quick response.



Position correction unit F2R-3000 (Standard – 3-axis only)

This unit corrects positional displacement that can occur when exchanging the cartridge heater and sleeve. It compares the programmed position data with the actual location of the cartridge and sleeve after replacement.



Drill cleaner DRC-1400 (Optional)

The rotating drill bit removes any dross from inside the sleeve.



Type	J-CAT 330 CMS	J-CAT 340 CMS
Operation Range	X axis	300mm
	Y axis	320mm
	Z axis	100mm
Portable Weight (X table stage) *1	15kg	
Repeatability*2	X,Y,Z ±0.007mm	
Teaching Method	Remote Teaching (JOG) / Manual Data Input (MDI)	
Program Capacity	999 programs	
Memory Capacity	32,000 points	
External input / Output	IN: 16 OUT: 16	
Soldering Condition	500 conditions	
Setting Temperature	0~500°C (1°C increments)	
Solder Feeding Amount	2~10mm (0.1mm increments)	
Solder Feeding Speed	10,20,30,40,50mm/sec (selectable)	
Usable Solder Diameter	Φ0.4 ~ 0.8mm	
Heater Capacity	200W	
Supply Air	0.4~0.5MPa (Dry & Clean Air)	
Power Source	AC94~260V (Single phase)	
Power Consumption	650W (Max.)	
Dimensions (W×D×H)	682×536×809mm	674×670×857mm
Weight	45kg	52kg

*1 It includes the jig base(1.8kg), F2R-3000(0.7kg) and DRC-1400(0.8kg).

*2 Position repeatability is not a guarantee of absolute precision. With usage conditions, it may exceed the above value.

CMS-1AU

Sleeve Soldering Robot

In-Line type

Single axis CMS robot for dedicated machines and in-line use.



1-axis robot equipped with only Z-axis

An in-line metal sleeve soldering robot that combines a CMS head and programmable Z axis. This allows for simple integration with any robot.

Type	CMS-1AU
Operation range (Z axis)	100mm
Portable Weight	5kg
Repeatability	±0.02mm
Soldering Condition	15 conditions
Position Movement Program	16 positions
Setting Temperature	0~500°C (1°C increments)
Solder Feeding Amount	2~1.0mm (0.1mm increments)
Solder Feeding Speed	10,20,30,40,50mm/sec (selectable)
Usable Solder Diameter	Φ0.4~0.8mm
Heater Capacity	200W (Max.)
Air Supply	0.5MPa
Power Source	AC100~240V (Single phase)
Power Consumption	680W (Max.)

*These specifications may be changed for improvement without prior notice.