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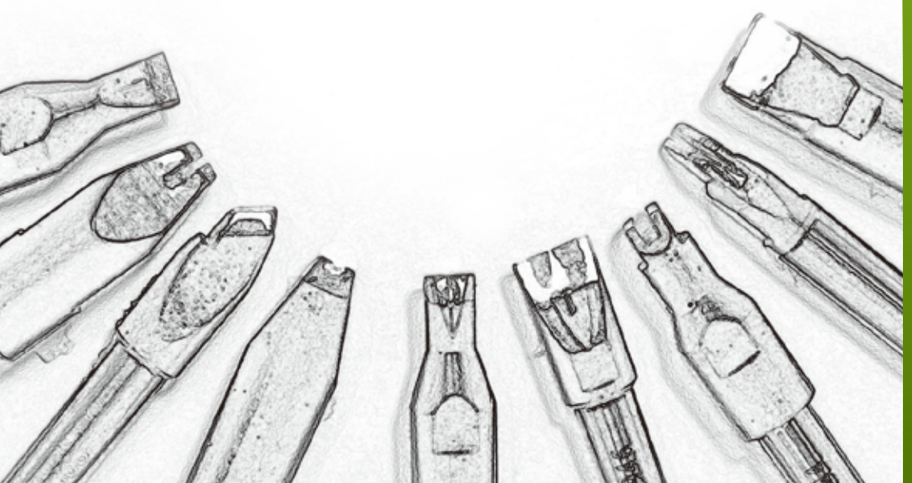
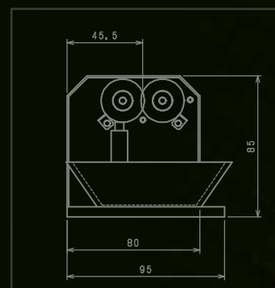
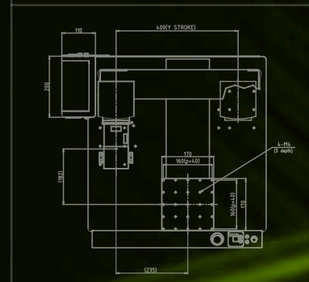
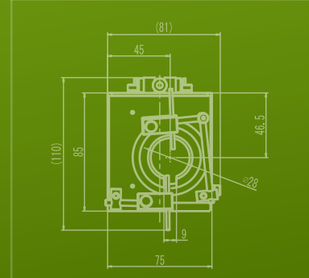
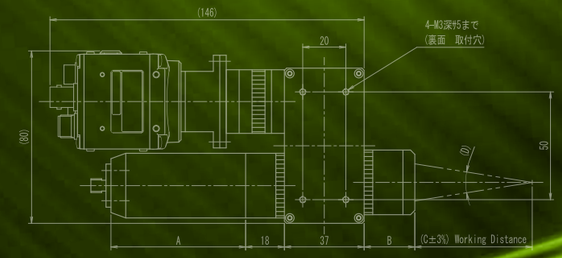
*These specifications may be changed for improvement without prior notice.

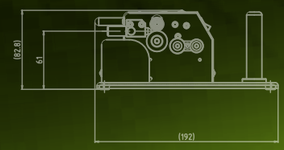












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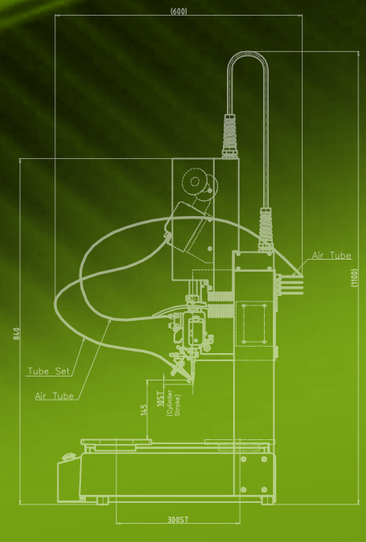
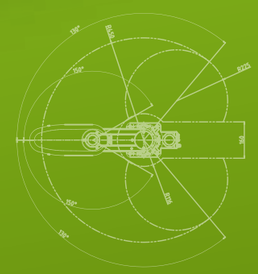
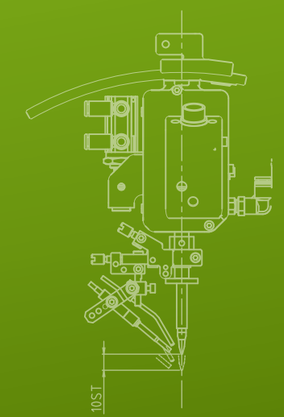
2018-2019

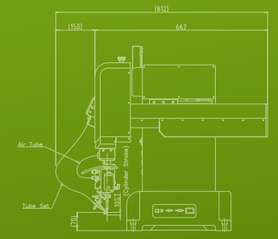
Product Catalog

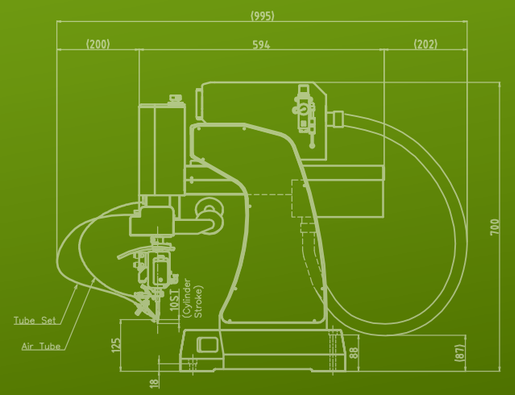
Your Automated Soldering Partner

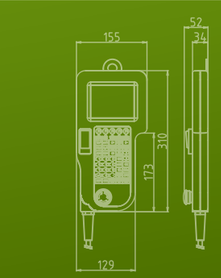


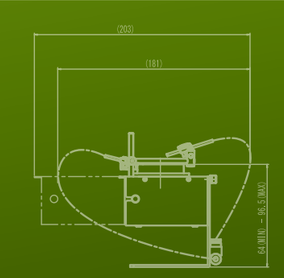












APOLLO SEIKO LTD.

Apollo Seiko is
Your Automated Soldering Partner.

Apollo Seiko is the creator and worldwide leader of selective soldering solutions. Our patented technologies and dedication to customer service set us apart from the competition.

Since our start up in 1969,
we are committed to research and development of advanced soldering solutions and building strong partnerships with our customers.

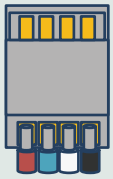
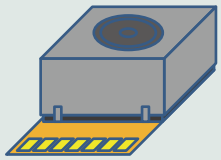
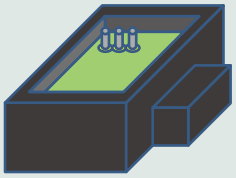
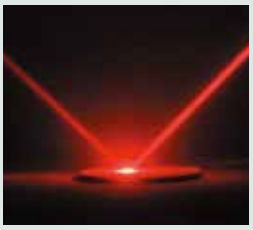
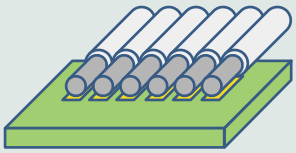
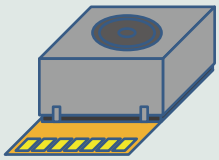
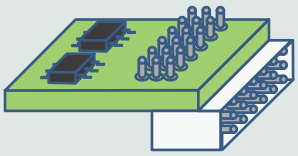
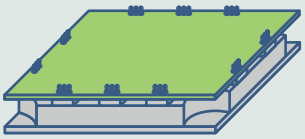
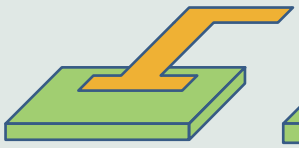
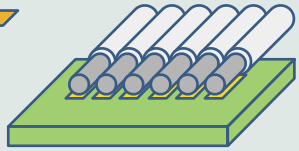
To Continue being Your Automated Soldering Partner

We have over 45 years of experience and results as a designer & builder of the soldering robot.
Our Apollo Seiko global family network can provide professional technical service and friendly support to our customer.

Koichi Hirosaki
CEO
Apollo Seiko Ltd.

Apollo Seiko Global Family

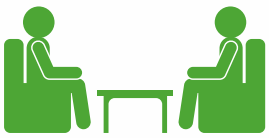
Selective Soldering Technologies

Method	Application Example	
Substitution from Manual Soldering **Iron**		 Harness  Camera Module
Precise Solder Amount **Sleeve**		 Insert Molded Product + PCB  Coil Terminal Wiring
Non-contact Soldering **Laser**		 Board + Micro Cable  Camera Module
Energy Saving & Eco Solder Bath **Selective Flow**		 Multi-row Connector  Intelligent Power Module
A Variety of Applications **Alternative Methods**		 FPC + PC Board  PC Board + Micro Cable

Introduction Flow of Automated Soldering

We offer Automated Soldering Consulting in order to provide a complete solution from product introduction to installation support.

Automated Soldering Consulting



Determine Requirements → **Proposal**

- Soldering application
- Quality requirements
- Cycle time
- Equipment constraints
- Budget / Lead time

- Test & report
- Suggestion of best method
- Demonstration
- Quotation

Delivery → **Follow-up**

- Field work
- Acceptance inspection
- Training
- Maintenance method

- Consumable and spare parts supply
- Troubleshooting
- Program & soldering condition changes
- Reconfiguration or improvement suggestions

We are always Your Automated Soldering Partner.

Advantage of Apollo Seiko's iron soldering

Iron Cartridge Page 47~

- Just 8 seconds to exchange iron cartridge without tools.
- The iron tip always returns to the exact same position after replacement.
- Direct heating system conducts the heat quickly to the iron tip.
- You can select the most suitable tip profile from a wide variety of iron cartridges.
- Built-in nitrogen nozzle iron cartridge is available.

Iron Unit Page 20

Micro Adjust Unit

This feature allows for fast, easy adjustment of the solder wire supply position up / down & left / right.

Changeable Second Solder Feeding Position

The solder wire is fed under the iron tip to prolong tip plating life and prevent the flux from burning off too rapidly. Upon tip extension, the solder wire contacts the tip thus melting the solder directly onto the solder pad and transferring thermal energy very rapidly. The solder feeding position can be set by programming the Z axis to raise or lower the solder wire location to feed directly into the desired area of the solder joint. This allows the solder to spread evenly around the joint for optimal results

Roulette Cutting Blade (ZSB) Page 39

No.1 Selected Option

The ZSB was designed to prevent solder balls and flux spattering.It reduces product defects, inspection process and reworking time due to the lack of solder ball formation.

Low-voltage, Low-power Consumption and Multi-power

Apollo Seiko's soldering robot is designed with safe, low-voltage and eco-friendly low-power consumption. The multiple power input has been designed for world-wide factory use and easy transfer to oversea facilities.

L-CAT EVO-Ⅱ

Desktop or In-Line Soldering Robot

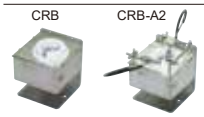
L-CAT EVO has been upgraded and renamed as L-CAT EVO-Ⅱ. This robot can be used for in-line or desktop applications.
The L-CAT EVO-Ⅱ has expanded Input and Output capability and an Ethernet function.
The X/Y/Z/R-axes move more smoothly and are much more reliable.
The L-CAT EVO-Ⅱ has a capacity of 100 programs and 100,000 points to meet virtually all PCB soldering requirements. The soldering temperature can be customized inside each of the 300 soldering profiles to provide optimal quality and cycle time. X&Y motors with high accuracy rotary encoders achieve 0.01mm resolution (repeatability 0.02mm) with a maximum speed 750mm/sec.

Accessories

ZSB Feeder

Air Blow Cleaners

CRB CRB-A2



Rotary Cleaners

SRC-500DC BRC-3000 SRC-3000

Fume Extractors

Bofa VAC-3000

VAC-4001A VAC-4002A

Pre-Heater

YPH-10

Micro Monitoring Camera

CSS-2100

High-Quality Portable Video Recorder

CVR-2100

Tip Thermometer

TTM-140

“The Robot Designed Exclusively for Soldering” Designed & Built by Apollo Seiko

Exclusive Gantry Type Soldering Robot

All 4 axes (X, Y, Z & R) are suspended from the gantry which allows for simple fixture design and easy integration into conveyor, manual load & dual shuttle environments. Fixture size and weight & cable/wire harness lengths are not an issue as the fixture remains stationary on the robot base table.

Programming Freedom & Flexibility

Normally soldering robots have a fixed sequence to program solder parameters. However, the L-CAT EVO-Ⅱ has a very flexible solder sequence that can be customized to meet the needs of your specific application. The L-CAT EVO-Ⅱ offers flexibility of parameter sequencing to provide solutions for high thermal energy, fine pitch devices, large & small lead combinations etc. The soldering parameters (solder feed amount, feeding speed & temperature) can be arranged in a sequence that provides a solution for each particular soldering challenge.

L-CAT-EVO-Ⅱ 4330 Operation Range Dimensions (W×D×H) Weight	X=300㎜, Y=300㎜ Z=60㎜, R=340° 520×995×714mm 50kg
L-CAT-EVO-Ⅱ 4430 Operation Range Dimensions (W×D×H) Weight	X=400㎜, Y=300㎜ Z=60㎜, R=340° 620×995×714mm 52kg
L-CAT-EVO-Ⅱ 4540 Operation Range Dimensions (W×D×H) Weight	X=500㎜, Y=400㎜ Z=60㎜, R=340° 720×1100×714mm 55kg
Soldering Condition	198Conditions
Soldering Step	21Step
Setting Temperature	TEM:0~500℃
Solder Feeding Speed	S+／S−:1~50.0(㎜／sec.)
Timer	TIM:0.1~99.9(sec.)
Iron Up/Down	CY:ON／OFF
Solder Diameter	φ0.4~1.6㎜
Heater Capacity	130W(Option:200W available)

Drive Method	5 Phase stepping motor with X,Y Axes
X, Y Axes	750㎜／sec.
Z Axis	150㎜／sec.
R Axis	360°／sec.
Teaching Method	Remote teaching (JOG) Manual Data Input (MDI)
Program Capacity	100 program
Memory Capacity	100,000 point
SYS-IO	IN:16 OUT:10
Free I/O	IN:16 OUT:16
External Interface	Ethernet, RS232C
Solder Feeding Amount Resolution	0.01㎜
Repeatability	±0.02㎜
Portable Weight	3kg
Power Source	AC94V~260V (Single Phase)
Air Supply	0.4~0.5 MPa (Dry & Clean air)
Power Consumption	MAX330VA (including heater)
Nitrogen Generator	Standard Equipment to Robot inside with Digital Flow Meter

L-CAT NEO-N

Original Gantry Type Soldering Robot

This next generation robot has all the necessary functions for selective soldering built into the machine.
The L-CAT NEO-N has been designed for either an in-line or lean manufacturing process.
It has been enhanced with a more sophisticated design and high-speed operation performance.
The built in monitor on the NEO allows for viewing the soldering process and aides in programming the application.
Robot teaching can be performed by the touch panel Teaching Pendant, a PC or an iPAD. Fiducial recognition and tip position alignment can easily be added to ensure proper tip & PCB alignment. This guarantees an accurate position and ensures the highest quality soldering results.

Accessories

ZSB Feeder


Air Blow Cleaners

CRB CRB-A2


Rotary Cleaners

SRC-500DC BRC-3000 SRC-3000



Tip Position Correction Unit

F71RH

Fume Extractors

Bofa VAC-3000


VAC-4001A VAC-4002A


Pre-Heater

YPH-10


High-Quality Portable Video Recorder

CVR-2100

Tip Thermometer

TTM-140

L-CAT NEO-N

Robot Communication – A Simple Matter of Choice & Functionality

You can choose your own device when it comes to communication & teaching of the L-CAT NEO-N, such as an iPad or PC tablet.
This capability has set a new standard for the next generation of selective soldering robots.

PC Software Screen Example

Available for Windows7, Windows8.1, & Windows10 (32 bit & 64 bit) Can manage multiple robots via Ethernet
Robot status data-logging – saved as .CSV file type
Teaching data editing and file transfer is very simple

Type		L-CAT NEO-N4330	L-CAT NEO-N4430	L-CAT NEO-N4530
Drive Method		Stepping Motor		
Encoder		4-axes Applicable		
Resolution	X,Y,Z Axes	0.01mm		
	R Axis	0.1°		
Operation Range	X,Y Axes	300×300mm	400×300mm	500×300mm
	Z Axis	80mm		
	R Axis	±180°		
Portable Weight		6kg		
Axis Speed	X,Y Axes	Max : 1200mm/sec. , Min : 0.1mm/sec.		
	Z Axis	Max : 320mm/sec. , Min : 3.2mm/sec.		
	R Axis	Max : ±800°/sec. , Min : 8°/sec.		
Repeatability	X,Y,Z Axes	±0.01mm		
	R Axis	±0.02°		
Teaching Method		Remote Teaching (JOG)		
		Manual Data Input (MDI)		
External Input / Output		Input : 39 Output : 39		
Program Capacity		511 programs		
Memory Capacity		500,000 point		
Setting Temperature		0~500℃		
Solder Feeding Speed		1.0~50.0mm/sec		
Solder Feeding Amount Resolution		0.1mm		
Solder Diameter	Using ZSB Feeder	φ0.4~φ1.0mm(Option: φ0.3,1.2,1.6mm)		
	Using Normal Feeder	φ0.3~φ1.6mm		
Heater Capacity		130W (Option: 200W Available)		
Nitrogen Generator		Standard Equipment to Robot inside With Digital Flow meter		
Display Language		English, Chinese, Korean, Japanese		
Power Source		AC94～260V(Single Phase)		
Power Consumption		650W max		
Other		Equipped with a monitoring camera		
Dimensions (WxDxH)		690×686×800mm	790×686×800mm	890×686×800mm
Weight		90kg	95kg	100kg

J-CAT LYRA

Desktop Soldering Robot

J-CAT LYRA is a new soldering robot with significantly improved base operational features, increased usability and durability.

Advanced Temperature Settings

Iron tip temperature can be set individually for each soldering point within the same program. As a result, high-quality soldering of components with different heat capacities, reliable filling of through-hole and perfect back fillets can be achieved.

Approach Function

The approach function allows for the programming of an additional axis movement during soldering. This helps to make programming and setup faster and easier for point teaching and also saves initial setup time.

Dual Iron Units & Feeders (Option)

The high-powered controller can operate two feeder units at the same time. This provides for a reduction in cycle time by 50%. Two iron units can also be utilized as an option, which is beneficial for soldering high heat capacity components.

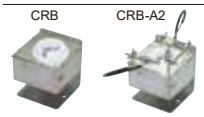
*The image is the external-switch model.

Accessories

ZSB Feeder

Air Blow Cleaners

CRB CRB-A2



Rotary Cleaners

SRC-500DC BRC-3000 SRC-3000

Fume Extractors

Bofa VAC-3000

VAC-4001A VAC-4002A

Nitrogen Generator

APN-05

Tip Position Correction Unit

F71RH

Pre-Heater

YPH-10

Micro Monitoring Camera

CSS-2100

High-Quality Portable Video Recorder

CVR-2100

Position Calibration Camera

SC+A

Tip Thermometer

TTM-140

Type		J-CAT320LYRA	J-CAT330LYRA	J-CAT340LYRA
Drive Method		5-phase Stepping Motor		
Encoder		4-axes Applicable		
Resolution	X,Y,Z Axes	0.01mm		
	R Axis	0.08°		
Operation Range	X,Y Axes	200×200mm	300×320mm	400×400mm
	Z Axis	50mm	100mm	150mm
	R Axis	±360°		
Portable Weight		7kg	15kg	
Maximum Speed	X,Y Axes	700mm/sec.	900mm/sec.	
	Z Axis	250mm/sec.	400mm/sec.	
	R Axis	600°/sec.	900°/sec.	
Repeatability	X,Y,Z Axes	±0.01mm		
	R Axis	±0.008°		
Teaching Method		Remote Teaching (JOG)		
		Manual Data Input (MDI)		
External Input / Output		Input : 16 Output : 16		
Program Capacity		999 program		
Memory Capacity		32,000 point		
Soldering Condition		Point acnd Slide Total; 500 Conditions		
Setting Temperature		0~500˚c		
Solder Feeding Speed		1.0~50.0mm/sec.		
Solder Feeding Amount Resolution		0.1mm		
Solder Diameter	Using ZSB Feeder	φ0.4~φ1.0mm (Option;φ0.3, 1.2, 1.6mm)		
	Using Normal Roller	φ0.3~φ1.6mm		
Heater Capacity		300W(Max)		
Air Supply		0.4~0.5MPa (Dry & Clean Air)		
Nitrogen Generator		Available (Option: APN-05)		
Display Language		English, Chinese, Korean, French, Spanish, German, Italian, Japanese, Czech, Vietnamese		
Power Source		AC94V ~ 260V (Single-phase)		
Power Consumption		400W		
Dimensions (WxDxH)		440x453x818mm	684x600x872mm	679x660x897mm
Weight		30kg	46kg	54kg

J-CAT COMET

Desktop Soldering Robot

This soldering robot is available in five work envelope sizes(200~600mm work areas). The PC software is very simple and user friendly and allows for program customization. The new robot upgrades provide for increased functions and expandability.

Improvement of Speed and Accuracy

This new robot model improves functionality, the maximum speed has been increased to 900mm/sec. The portable weight is 15kg, and the tool portable weight is 7kg(on robots with 300 stroke size or more). The accuracy of movement has been improved which allows for high precision soldering.

Support for Max 6-axes(Option)

The previous model had a 4-axes control maximum. The new model can control an additional 2 axes, therefore 6-axes control is achievable. Part rotation or direction change is possible and solder wire supply angle can be changed to meet your application requirement.
The additional 2 axes control provides for external control of a conveyor, motor or rotary table. This allows for the automation of manual tasks and minimizes operator intervention in the process.

LAN (Ethernet) Port as Standard Equipment

An Ethernet connection can send / receive teaching data via a PC interface. This improves data management backup.
Connecting the PLC allows operation control of the robot.
Various communication methods can be selected.

Accessories

ZSB Feeder


Air Blow Cleaners

CRB CRB-A2


Rotary Cleaners

SRC-500DC BRC-3000 SRC-3000

Fume Extractors

Bofa VAC-3000


VAC-4001A VAC-4002A

Nitrogen Generator

APN-05

Tip Position Correction Unit

F71RH

Pre-Heater

YPH-10

Micro Monitoring Camera

CSS-2100

High-Quality Portable Video Recorder

CVR-2100

Position Calibration Camera

SC+A

Tip Thermometer

TTM-140

Type		J-CAT320COMET	J-CAT330COMET	J-CAT340COMET
Drive Method		5-phase Stepping Motor		
Encoder		4-axes Applicable		
Resolution	X,Y,Z Axes	0.01mm		
	R Axis	0.08°		
Operation Range	X,Y Axes	200×200mm	300×320mm	400×400mm
	Z Axis	50mm	100mm	150mm
	R Axis	±360°		
Portable Weight		7kg	15kg	
Maximum Speed	X,Y Axes	700mm/sec.	900mm/sec.	
	Z Axis	250mm/sec.	400mm/sec.	
	R Axis	600°/sec.	900°/sec.	
Repeatability	X,Y,Z Axes	±0.01mm		
	R Axis	±0.008°		
Teaching Method		Remote Teaching (JOG)		
		Manual Data Input (MDI)		
External Input / Output		Input : 16 Output : 16		
Program Capacity		999 program		
Memory Capacity		32,000 point		
Soldering Condition		Point acnd Slide Total; 500 Conditions		
Setting Temperature		0~500˚c		
Solder Feeding Speed		1.0~50.0mm/sec.		
Solder Feeding Amount Resolution		0.1mm		
Solder Diameter	Using ZSB Feeder	φ0.4~φ1.0mm (Option;φ0.3, 1.2, 1.6mm)		
	Using Normal Roller	φ0.3~φ1.6mm		
Heater Capacity		130W(Max)		
Air Supply		0.4~0.5MPa (Dry & Clean Air)		
Nitrogen Generator		Available (Option: APN-05)		
Display Language		English, Chinese, Korean, French, Spanish, German, Italian, Japanese, Czech, Vietnamese		
Power Source		AC94V ~ 260V (Single-phase)		
Power Consumption		366W		
Dimensions (WxDxH)		447×463×819mm	679×536×873mm	683×670×898mm
Weight		30kg	46kg	54kg

J-CAT STELLAR

Desktop Soldering Robot

This robot is the high-powered model of the J-CAT COMET. A 200 watt heater can be added as an attachment and is able to use the larger 2.0mm solder diameter. This machine is most useful in soldering high heat sink applications such as a multilayer board and shielding case.

High Power Heater

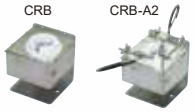
Type	J-CAT320 STELLAR	J-CAT330 STELLAR	J-CAT340 STELLAR
Operation Range	X=200mm, Y=200mm Z=50mm, R=±360°	X=300mm, Y=320mm Z=100mm, R=±360°	X=400mm, Y=400mm Z=150mm, R=±360°
Dimensions (W×D×H)	447×463×819mm	679×536×873mm	683×670×898mm
Weight	31kg	47kg	55kg
Soldering condition	Point and Slide Total; 500 conditions		
Power	AC94~260V(Single phase)		
Power Consumption	490W		
Other	Standard equipment; 200W high capacity heater		
	High power solder feeder can feed maximum 2.0mm diameter		
	Sequence function is equipped to work independently from robot		

Accessories

ZSB Feeder

Air Blow Cleaners

CRB CRB-A2



Rotary Cleaners

SRC-500DC BRC-3000 SRC-3000

Fume Extractors

Bofa VAC-3000

VAC-4001A VAC-4002A

Nitrogen Generator

APN-05

Tip Position Correction Unit

F71RH

Pre-Heater

YPH-10

Micro Monitoring Camera

CSS-2100

High-Quality Portable Video Recorder

CVR-2100

Position Calibration Camera

SC+A

Tip Thermometer

TTM-140

JS TERRA / JS COMET

SCARA: Selective Compliance Assembly Robot Arm

This high-speed, axially-moving robot is ideal for use with in-line applications designed for full automation.

Type	JS250	JS350	JS450	JS550
J1 Arm	100mm	125mm	225mm	325mm
J2 Arm	150mm	225mm	225mm	225mm
Z axes	150mm	150mm	150mm	150mm
R axes	±360°	±360°	±360°	±360°
Max Payload	4kg	6kg	6kg	6kg
Max Speed (J1+J2)	4200mm/s	6300mm/s	5600mm/s	6200mm/s
Robot Weight	30kg	30kg	31kg	32kg

Comet

Terra

Teaching Pendant

Control Box

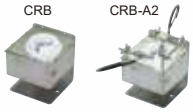
Drive Method	AC servo motor
Control Method	PTP(Point to Point)control, CP(Continuous Path)control
Interpolating Function	3-Dimensional line and Arc interpolation
Position Detection	Absolute Encoder
Teaching Method	Remote teaching (JOG) / Manual data input(MDI) / Direct teaching
Teaching System	Original software : Simple and broad-use teaching system
Teaching Pattern	Programming by teaching pendant
Programming Capacity	255 programs
Data Memory Capacity	Maximum 30,000 points
Simple Sequencer	Maximum 1,000 steps
External Serial Interface	RS422 1ch (For teaching pendant) RS232C 1ch (For PC COM1) RS232C 1ch (Extenal device COM3)　COM2: Using solder controller
External Input / Output	I/O-SYS Input 15 / Output 14 I/O-1 Input 18 / Output 22(4-relay contact)
Power Consumption	950W(JS250) 1,050W(JS350~550)
Power Supply	AC180~250V(Single phase)
Working Ambience	Ambient temperature：0~40℃　Relative Humidity：20~90%

Accessories

ZSB Feeder

Air Blow Cleaners

CRB　CRB-A2



Rotary Cleaners

SRC-500DC　BRC-3000　SRC-3000

Fume Extractors

Bofa　VAC-3000

VAC-4001A　VAC-4002A

Nitrogen Generator

APN-05

Tip Position Correction Unit

F71RH

Pre-Heater

YPH-10

Micro Monitoring Camera

CSS-2100

High-Quality Portable Video Recorder

CVR-2100

Position Calibration Camera

SC+A

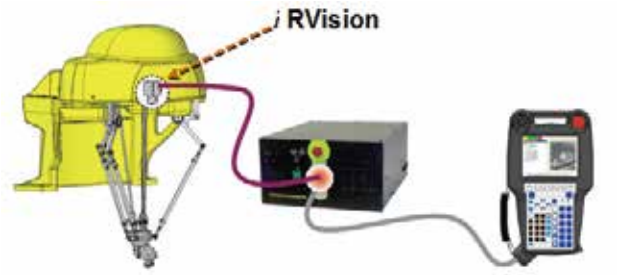
Tip Thermometer

TTM-140

M1-CAT300 *i*

Parallel-Link Soldering Robot

The M1-CAT300i is a high speed, multi-function soldering robot that adopts the technology of the Fanuc Genkotsu robot (fist dexterity). This is the world's first soldering robot that operates with parallel-link technology. The high performance operation of six flexible axes make it possible to change the height, direction and angle of the iron tip. This lightweight and compact mechanical unit has been designed to fit into tight work spaces. Incorporating the optional **iRVision** image positioning system, the robot will be guided to the correct solder location every time.

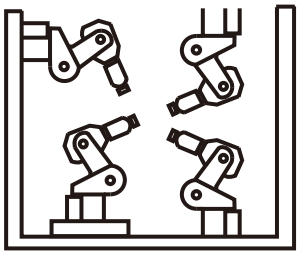


Type		M1-CAT300i
Operation Mode		Parallel link mechanism
Drive Method		Electric servo drive by AC servo motor
Controlled Axes		6 axes (J1,J2,J3,J4,J5,J6)
Operation Range (Max. speed)	J1-J3	Diameter 280mm, Height 100mm
	J4	720°(1440°/sec.) 12.57rad (25.13rad/sec.)
	JS	300°(1440°/sec.) 5.24rad (25.13rad/sec.)
	J6	720°(1440°/sec.) 12.57rad (25.13rad/sec.)
Repeatability		±0.02mm
Setting Temperature		0~500℃
Solder Feeding Speed		1.0~50.0mm/sec.
Solder Feeding Amount Resolution		0.1mm
Solder Diameter	Using ZSB Feeder	φ0.4~φ1.0mm (Option: φ0.3mm, φ1.2mm, φ1.6mm)
	Using Normal Feeder	φ0.3~φ1.6mm
Heater Capacity		100W, 130W, 200W (Depends on the unit)
Nitorogen Generator		Available (Option : APN-05)
Power Source		AC200V (Single phase)

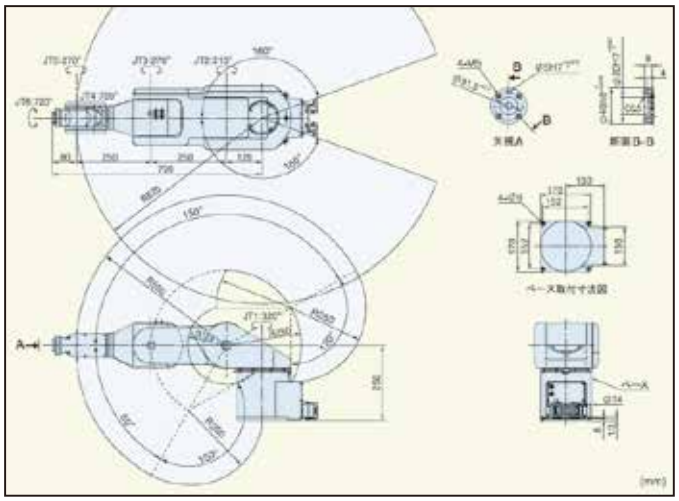
RS003N

This compact unit offers 6-axis, high function performance to handle PCB's and components for soldering, component replacement and automating repetitive tasks. The robot's main unit weighs an easy-to-handle, 20kg and can be mounted on the floor, wall or ceiling. Even with the small size, the robot is equipped with fast accurate and sturdy 6-axis arms for ensuring high reliability and precision. The robot can withstand most operating enviroments in the industry. When the power is turned off there is no need to worry about a stop position because all six axes have brakes.

Type		RS003N	
Arm Type		Articulated	
Degrees of Freedom		6 Axes	
Axis Work Envelope	Axis	Max. Stroke	Max. Speed
	JT1 : Arm rotation	±160°	360°/S
	JT2: Arm out-in	+150° ~ −60°	250°/S
	JT3: Arm up-down	+120° ~ −150°	225°/S
	JT4: Wrist swivel	±360°	540°/S
	JT5: Wrist bend	±135°	225°/S
	JT6: Wrist twist	±360°	540°/S
Max. Reach		620mm (Distance from JT1 to JT5)	
Max. payload		3 kg	
Moment	JT4: Wrist swivel	5.8N·m	
	JT5: Wrist bend	5.8N·m	
	JT6: Wrist twist	2.9N·m	
Moment of Inertia	JT4: Wrist swivel	0.12ke·m²	
	JT5: Wrist bend	0.12kg·m²	
	JT6: Wrist twist	0.03kg·m²	
Position Repeatability		±0.05mm (At wrist flange surface)	
Max. Linear Speed		6,000mm/s (At wrist flange surface)	
Mass		20kg (Excluding option)	
Body Color		Munsell 10GY9/1 equivalent	
Installation		Floor, Ceiling or Shelf mount	
Environmental	Ambient Temperature	0~45°C	
	Relative Humidity	35~85% (No dew, nor frost allowed)	
	Vibration	Less than 0.5G	
	Other	The robot installing place should be free from: *inflammable or corrosive l iquid or gas *electric noise interference	
Option		Wall Mounting (Max. Payload: 2kg) 1 Double solenoid valve Restriction of motion range 2 Double solenoid valves (mechanical): JT1 (45! pitch) 1 Single solenoid valve External sensor harness (4 circuits)2 Single solenoid valves	



Floor, Wall or Ceiling Mount



TERRA / LUNA

LUNA and TERRA systems have been designed exclusively for automated soldering. These soldering units can be widely adapted for use in semi & fully automated systems, desk-top robots, linear actuators and your special purpose machine.

TERRA

The 297 soldering profiles can be customized to provide a solution for all types of soldering application challenges. Our 200 watt heater addresses the requirement to solder large thermal mass components and can feed a range of solder diameter between 0.4mm to 1.6mm.

Type	TERRA
Power	AC85~264V(Single phase)
Power Consumption	240W
Air Supply	0.4~0.5 MPa
Solder Type	0.4~2.0mm Select 1 type 0.4~1.6mm for ZSB Geyan 0.3mm (Optional)
Solder Conditions	297conditions (Point 198 & Slide 99) Point 99 Slide 99 Special 99
Setting Temperature	0~500°C
Heater Capacity	200W (Max)
Solder step	9 Steps
Wait Temperature	250°C (Adjustable)
External Start Box	Optional
Controller Weight	4.3 kg
Feeder Unit Weight	1.3 kg
Iron Unit Weight	0.8 kg

Configuration

TERRA - SP + ☐ (Iron Tip) + ☐ (Solder Diameter)

SP: Feeder and controller seperate type

Components

TERRA Controller
RSP/RSL Iron Unit
Solder Wire Feeder
Solder Wire Feeding Tube
Iron Unit/Feeder signal Cable
Air Tube for Iron Unit
Power supply Cable

LUNA

This unit is equipped with a color touch panel and parameter control, similar to the TERRA.
You can select the Luna controller orientation from Vertical & Horizontal options.

Type	LUNA
Power	AC85~264V(Single phase)
Powewr Consumption	154W
Air Supply	0.4~0.5 MPa
Solder Type	0.4~1.6mm Select 1 type 0.4~1.2mm for ZSB 0.3mm (Optional)
Solder Conditions	7 conditions (Point 4 & Slide 3)
Setting Temperature	0~500°C
Heater Capacity	130W (Max)
Solder step	9 Steps
Wait Temperature	250°C (Adjustable)
External Start Box	Optional
Controller Weight	3.5 kg
Feeder Unit Weight	1.3 kg
Iron Unit Weight	0.8 kg

Configuration

LUNA - LSP + ☐ (Iron Tip) + ☐ (Solder Diameter)
or SSP
or LCO

L:Vertical S: Horizontal

SP: Feeder and controller seperate type
CO: Feeder and controller combined type

Components

LUNA Controller
RSP/RSL Iron Unit
Solder Wire Feeder
Solder Wire Feeding Tube
Iron Unit/Feeder signal Cable
Air Tube for Iron Unit
Power supply Cable

RSP / RSL / LFD

Iron Unit for Point and Slide Soldering

It takes 8 seconds to replace the iron cartridge and it does not require position adjustment upon iron cartridge replacement.
The solder feeding position can be precisely set by adjusting the set screw.

Iron Unit For Point Soldering *RSP*

This unit can achieve high speed point soldering. The slim design makes it possible to solder applications with tight accessibility issues. This unit has both a pre-feed and secondary feed height adjustment.

Iron Unit For Slide Soldering *RSL /RSL-FPR*

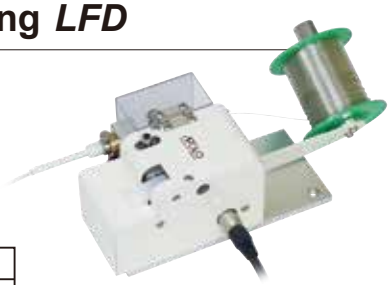
This iron unit is designed for slide soldering. The spring loaded tip assembly will not damage PCB solder mask during the slide operation.

RSL

RSL-FPR

Solder Feeder for Automatic Soldering *LFD*

It can control feeding amount precisely by its pulse motor and the ZSB roller blade can be attached as an option.



Solder Feed Motor	Pluse motor
Solder Wire Diameter	φ0.4~1.6mm (Option:φ0.3mm)
Feed/Reverse Speed	0.1~50.0mm/sec.
Sensor	Clogged, Shortage
Weight	1.3kg

J-CAT SLV

Desktop Sleeve Soldering Robot

This desktop sleeve soldering robot easily installs into a “Lean” cellular production environment.

Type	J-CAT330 SLV	J-CAT340 SLV
Operation range	X=300mm, Y=320mm, Z=100mm	X=400mm, Y=400mm, Z=150mm
Portable Weight	15kg	
Repeatability	X,Y,Z±0.007mm	
Program Capacity	999 programs	
Memory Capacity	32,000 points	
Soldering Condition	500 conditions	
Setting Temperature	0~550°C (1°C increment)	
Solder Feeding Amount Resolution	0.1~99.9mm (0.1mm increments)	
Solder Feeding Speed	1.0~50.0mm/sec. (0.1mm/sec. increments)	
Solder Diameter	φ0.8~1.2mm	
Power Consumption	350W(Max)	
Heater Power Consumption	135W	
Power Source	AC94~260V(Single phase)	
Supply Air	0.5MPa (Dry & Clean Air)	
Interface	For external operation command D-SUB25 female pin (Harness side: male)	
Dimensions (W×D×H)	682×610×809mm	674×671×857mm
Weight	40kg	47kg

Ceramic Sleeve

A customized ceramic sleeve can be fabricated to meet your application requirements, clearances etc.

Accessories

Drill Cleaner

DRC-1300

Cleaning Heater

CCH-700

Micro Monitoring Camera

CSS-2100

High-Quality Portable Video Recorder

CVR-2100

Position Calibration Camera

SC+A

Tip Thermometer

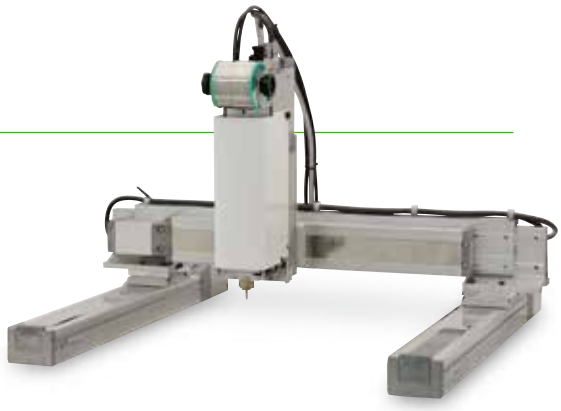
TTM-140

VAC-4001A / VAC-4002A

JC-3-3A SLV

Gantry Type Sleeve Soldering Robot

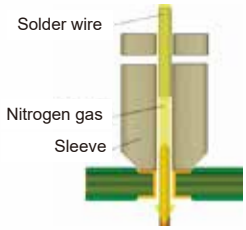
This robot consists of SLV and JC-3 (Page 37). It is well suited for an in-line process or as a special purpose machine.



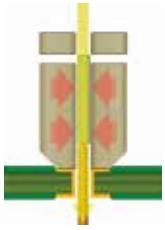
Constant Amount Sleeve Soldering

This sleeve soldering meters, cuts and melts a programmed length of solder wire in the “ceramic sleeve”. The iron tip plating oxidation / erosion does not occur when utilizing this special ceramic material. Flux spattering and solder balls are eliminated as the solder melts inside the sleeve. The simple head design allow for quick and easy maintenance. The coaxial design of the heater and mechanical parts provide for easy position teaching. The ceramic heating unit has a very long operational life.

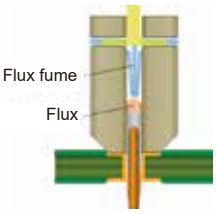
Sleeve Soldering Mechanism



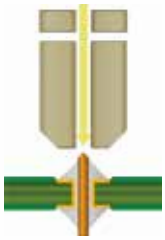
After pre-heating by the sleeve, the solder wire is cut and dropped into the solder joint area.



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



The solder melts smoothly because the flux fume is exhausted through the vent holes on the sleeve. Also, solder clogs do not occur.



All the supplied solder wire is fed to the solder joint without remaining it in the sleeve.

Constant Amount

Solder wire is cut to a programmed length. All the cut solder wire melts and flows to the application without remaining it in the ceramic sleeve.

Few Consumable Parts

The ceramic sleeve has a long life because the sleeve is not consumed by wetting solder. There is no need to consider consumable costs.

Standard Equipment of Nitrogen Generator

It enables better soldering by melting the solder wire in an inert nitrogen atmosphere.

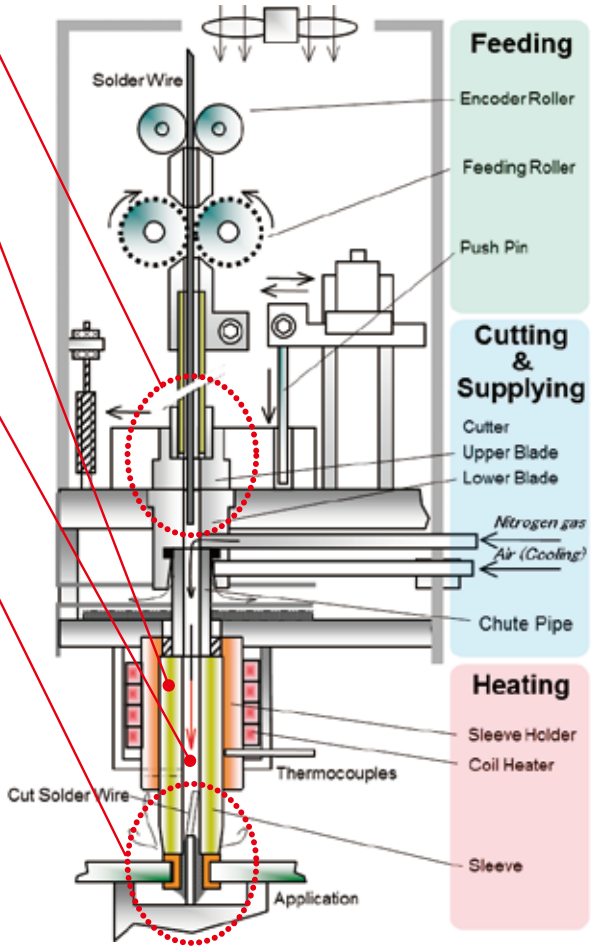
No Spattering

Flux and solder wire do not spatter because the high conductivity sleeve encapsulates the complete process.

Easy Maintenance

The simply designed head allows quick and easy maintenance. Daily maintenance is only sleeve cleaning as flux fumes do not come in contact with the mechanical feeding components.

Internal Structure of SLV Head



J-CAT MLU-808FS

Desktop Laser Soldering Robot

This robot is non-contact soldering that heats up the target with a high energy light emitted from an oscillated laser diode and is focused with a lens.

The wave length of laser can be selected from 808nm or 980nm.

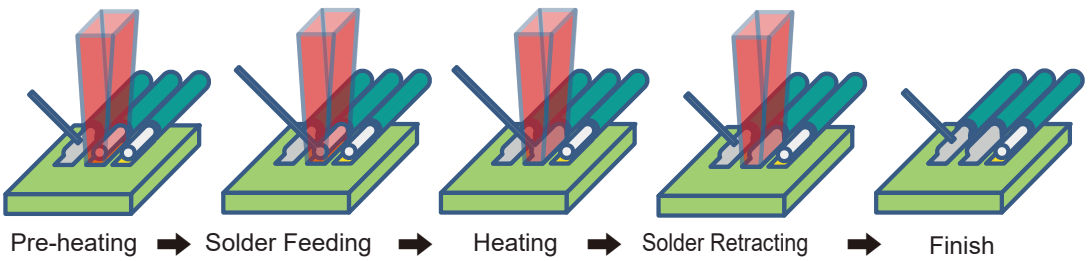
808nm: MLU-808FS
980nm: MLU-980FS

J-CAT330 MLU-808FS + COMET-FD + TCU-1000

Accessories

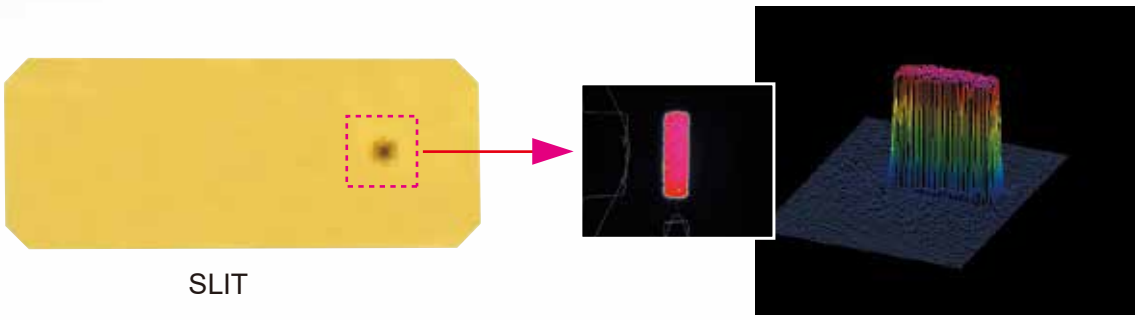
Laser Soldering Basic Process

The laser soldering process depends on the type of solder to be used (wire, pre-form or paste).
In the case of solder wire, laser irradiation is performed in advance to the joint area (Pre-heating). This is the most important process in order to wet and allow the solder to flow easily when supplying the solder wire to the joint area.



SLIT Beam Option

Although the laser beam shape is generally circular, this originally developed SLIT plate (metal plate with a hole) enables virtually any type of laser beam shape. This allows the beam to match the shape of the components and the pads to be soldered.



SLIT

Rectangular Beam

Circular Beam
φ500μm

Circular Beam
φ50μm

Circular Beam
φ1000μm

Various Beam Diameters
Free Beam Shape

Rectangular Beam
0.25 x 0.75 ㎜

Twin Beam
φ0.2 x 2

Square Beam
0.8 x 0.8 ㎜

Temperature Control Unit TCU-1000 (Option)

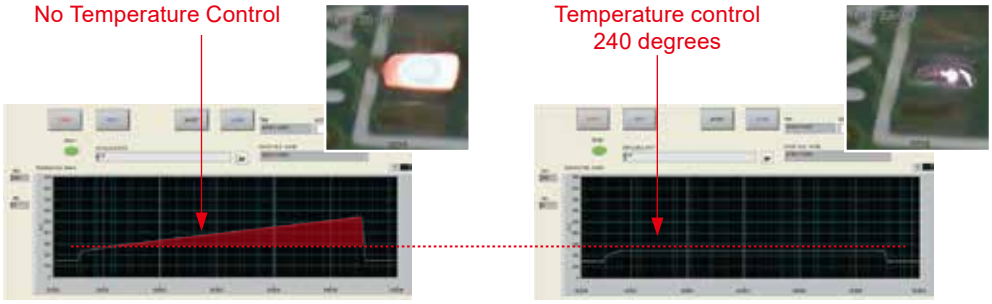
* Option only for MLU-808FS

This non-contact radiation thermometer (minimum φ0.25mm) measures the temperature of the soldering point in real time.

By sending the temperature data to the laser controller, it controls the laser power by temperature.

This prevents any unexpected temperature rise during soldering, and then it achieves stable soldering by controlling the soldering temperature.

Comparison of Temperature Data



Lens Variety

The type of lens to form a laser beam is composed of two components, the “Input lens” and “Output lens”.
With the combination of these lenses, over 100 diameter variations can be achieved.

Type			MLU-808FS / MLU-980FS
Material			Semiconductor Laser
Oscillation			CW (Continuous Wave)
LD Type / LD Output			808nm : 35W / 50W / 100W , 980nm : 50W
Wavelength			808nm / 980nm
Guide Beam			◉
Halation Prevention			◉
LD Cooling System			Electric Cooling
Coaxial Observation Function			◉
Fiber Core Diameter			φ200μm/ φ400μm (Option :φ100μm)
Fiber Length			3m / 5m
Focused Beam Diameter			φ50μm~8000μm
Focal Length			10mm~200mm
Focused Beam Shape			Circular / Rectangular / Free Shape by SLIT laser option
Temperature Control			Available
Parameter Control Mode	Time	Setting Resolution	0.1sec. / 0.01sec.
		STEP	1 ~ 100 STEP
		Time Setting	1 STEP = 0.1sec. (Max: 0.1sec. ×100STEP = 10sec.)
	Current (A) Control	Setting Resolution	0.1A
Registered Waveform Capacity			16
Interface			Input Terminal ×1 Sig. OUT (BNC) × 1 CURR. MINI (BNC)×1 RS232×1 Analog Input (0~5V) ×1
Dimensions WxDxH	Laser Head		160.5 × 114 × 366 mm (Maximum Size)
	Laser Oscillation Unit		270×260×230mm
	Laser Controller		430×350×149mm
Weight	Laser Head		Approx. 0.5 kg
	Laser Oscillation Unit		Approx. 6.5 kg
	Laser Controller		Approx. 16 kg
Power			Single Phase AC100V / AC200V / AC220V ±10% 50/60Hz

Temperature Control Unit TCU-1000 (Option)	
Power Supply & Temperature Converter	
Overshoot	Below ±20℃ for setting value Note1
Control Accuracy	Below ±5℃
Measured Temperature Range	160~900℃
Control Range	160~400℃
Warm-up Time	1 minute
Control Frequency Response	2 kHz
Parameter	Emissivity: 0~1, Reflection correction: 0~9999
Power Supply	AC85~264V (Single phase)
Max. Electric Power	15 W
Dimension (W×D×H)	270×260×148 mm
Weight	3 kg
Sensor Head	
Measurement Area	φ0.25 mm
Working Distance (WD)	25 mm
Dimension	φ20×75mm
Fiber Length	1 m

Note1; This value was detected by using our inspection jig.

F-CAT Series

Premiere Model

This selective flow system is an in-line module type consisting of Pre-fluxing, Pre-heating and Soldering.
It is equipped with various functions such as Automatic Nozzle Cleaner, Automatic Flow Control and a Position Calibration Camera.

F-CAT iN350-Z3 / iN500-Z3
In-line Selective Flow System

The modular type system allows for customization and expansion of your equipment.

Model	Power Consumption	Substrate Size	Dimensions (W×D×H)		
			Pre-fluxing	Pre-Heating	Soldering
F-CAT iN350-Z3	22kW	50×50 ～ 350×250mm	850×1450×1400mm	850×1450×1400mm	1050×1450×1400mm
F-CAT iN500-Z3	25kW	50×50 ～ 500×400mm	1000×1600×1400mm	1000×1600×1400mm	1200×1600×1400mm

F-CAT 350 A / 500 A
All-in-one Selective Flow System

F-CAT iN350 A / iN500 A
In-Line All-in-one Selective Flow System

This is an all-in-one selective flow system for the production in a high-mix, low-volume environment. It is possible to select from the combination of conveyor type and the application board size (robot stroke).

Model	Power Consumption	Substrate Size	Dimensions (W×D×H)
F-CAT 350 A	8kW	50×50～350×250mm	1050×1550×1400mm
F-CAT 500 A	10kw	50×50～500×400mm	1200×1700×1400mm
F-CAT iN350 A	8kW	50×50～350×250mm	1050×1450×1400mm
F-CAT iN500 A	10kW	50×50～500×400mm	1200×1600×1400mm

Entry Model

F-CAT e350 A / e500 A
All-in-one Selective Flow System

This entry level model consists of
Pre-fluxing and Soldering. It is equipped
with Automatic Nozzle Cleaner,
Automatic Solder Feeder and
Position Calibration Camera etc.

Model	Power Consumption	Substrate Size	Dimensions (W×D×H)
F-CAT e350 A	4.5kW	50×50 ～ 350×250mm	1050×1350×1400mm
F-CAT e500 A	5kW	50×50 ～ 500×400mm	1200×1500×1400mm

Compact Model

F-CAT C340
Compact Selective Flow System

The F-CAT C 340 is easy to implement into your process.
The compact design of this system with fluxer allows for easy integration.
The internal JC-3 controller with servo stepper motors enables the robot teaching without a PC.
A user friendly teach pendant can be used to create programs quickly and easily.
It is possible to program from a scanner, .DXF or Gerber data with the provided PC software.
By using the same solder bath and fluxer as the top models, it achieves reliable soldering results.

Model	Power Consumption	Substrate Size	Dimensions (W×D×H)
F-CAT C340	3kW	50×50～300×400mm	1000×1000×1015mm

F-CAT Series Function List

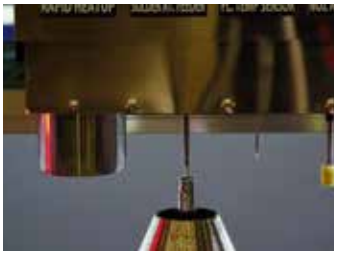
Model Class	Premiere			Entry	Compact
Model	iN350-Z3 iN500-Z3	iN350 A iN500 A	350 A 500 A	e350 A e500 A	C 340
Nozzle Size	φ4~20	φ4~20	φ4~20	φ4~20	φ4~20
Solder Bath	5 kg	5 kg	5 kg	5 kg	5 kg
Monitoring Camera	○	○	○	○	○
Solder Feeder	○	○	○	○	○
Spray or Dot Fluxer	○	○	○	○	○
Camera Scan Teaching	○	○	○	○	○*1
Nozzle Cleaner	○	○	○	○	–
Position Calibration Camera	○	○	○	○	–
Flow Height Control	○	○	○	○	–
Flow Temperature Control	○	○	○	○	–
Nozzle Position Detection	○	○	○	–	–
Quick Nozzle Heat Up	○	○	○	–	–
Pre-Heating	○	○	○	–	–
QR / Barcode Reader (Option)	△	△	△	–	–
MES Data Storage (Option)	△	△	△	–	–

*1 Although F-CAT C340 does not have the camera scanning function, the robot teaching is possible with the provided PC software if the application data is scanned by another source.

Automatic Nozzle Cleaner

Considering safety and ease of maintenance, the nozzles that used to be cleaned manually are now cleaned automatically.

Automatic Solder Feeder

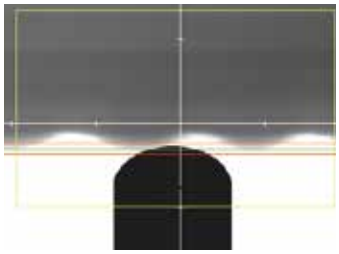


Solder wire is automatically fed into the solder pot. This is much easier and safer than adding bar solder.

Camera Scan Teaching

The application set to the F-CAT is directly scanned and teaching can be performed.

Flow Height Control



This camera observes and calibrates any flow height changes that occur from the solder surface height in the bath and any variation by the rotation of the impeller.

Position Calibration Camera

It detects and calibrates any application shift before pre-fluxing and soldering.

Nozzle Position Detection Camera

Any movement to the nozzle position shift and slope that can occur during nozzle change is automatically detected.

HASL-130

Hot Air Unit

This Hot Air Cartridge has been developed with Apollo Seiko' s direct heating technology that was accumulated by the development and production of our iron cartridges. The fine Hot Air Cartridge enables micro and narrow pitch soldering,The shape and size of the air outlet can be fabricated per your application requirements.

The control unit has an excellent response and stable high-performance temperature controller.
The equipped mass flow controller can perform accurate air (nitrogen) amount control.
It is also possible to use as a pre-heater prior to soldering.

Combination Example with a Robot

Type		HASL-130
Temperature Range		0~500°C
Power Supply		AC100~240V(Single phase)
Flow Amount		0.1~5 L/Min
Hot Air Cartridge		130W DC Heater
Weight	Control Unit	Approx. 3kg
	Cartridge Unit	Approx. 0.5kg
Option		Nitrogen Generator APN-05

Control Unit

Cartridge Unit

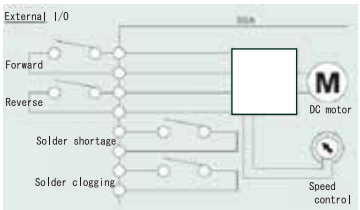
Alternative Method

SSA

Solder Feeder for Automation Equipment *SSA*

The solder can be fed forward or reverse and controlled by an external I/O controller. If used to control the solder liquid surface level, it automatically keeps the level constant. In addition, it can be attached to the equipment as a feeder of an automatic soldering system.

External I/O



Type	SSA
Power	AC100V / AC220V 50/60Hz
Using Motor	DC motor 5 Watt
Solder Diameter	φ0.4~2.0mm
Solder Feed	External control (high / Low)
Solder Feed Speed	10~30mm/sec.
Solder Feed Reverse	External control (30mm/sec.)
Sensor	clogged / shortage sensor
External Control	Available
Weight	Approx. 2kg
Accessories	I/O Connector, External Power Supply Connector, Power Cable
Option	Solder Wire Feeding Tube

TTM-3000N

Manual Soldering Station

The high-powered soldering station provides 100 watts of soldering power. The extremely fast heat up & temperature recovery, along with the ability to integrate N2 gas, make the TTM -3000N ideal for lead free soldering. The N2 gas can be pumped directly into the TTM-3000N via APN-05 generator or factory supplied Nitrogen. Statistical temperature data can be downloaded to a PC using an optical USB cable.

Type	TTM-3000N
Power	AC90~264V(Single phase)
Heater capacity	130W(max) DC48V
Grounding resistance	Less than 2Ω
Temp. Control	PID control
Control interval	0.1second
Size (W×D×H)	110×115×135mm
Weight	2kg
Max. Power consumption	150W
Accessories	Iron Cartridge Grip, Iron Cartridge, Iron Holder Stand,Tip Removable Pad, Ground Terminal, Fuse 2A, Power Cable

TTM-1000H

Lead Free Manual Soldering Station

This equipment is designed to produce lead free soldering with no static electricity. It is economical because the only necessary replacement part is the Iron tip.

Type		TTM-1000H
Power		AC100, AC115V, AC220V
Setting temperature		200~420℃
Heat capacity		90W
Output power		36VAC, 400KHz High frequent current
Temp. consistency		±2℃(No load)
Raising time		25sec. (300℃)
Weight	Contraller	2.5kg
	Iron unit	0.1kg
	Iron stand	1.0kg
Accessories		Iron Cartridge Grip, Iron Cartridge, Iron Holder Stand, Power Cable

SSB

Iron Unit with Solder Feeder *SSB*

This integral unit will increase efficiency of manual solder work.Handling the iron unit and feeding the solder are two actions that can be done with one hand. The solder wire feed length is controlled with a timer which provides good soldering quality. There are two options of iron units. The pistol type or pencil type. In addition there are more than 20 different types of iron tips available.

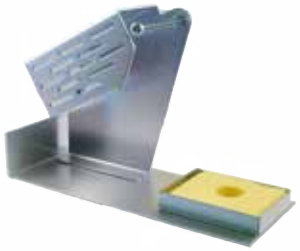
Type	SSB
Power	AC100V 50/60Hz
Using Motor	DC motor 5 Watt
Thermostat	Vari-tap type
Solder Diameter	0.4~2.0mm
Solder Feed	1 Pulse timer / Continuous
Solder Feed Speed	10~30mm/sec.
Solder Feed Reverse	N/A
Weight	Approx. 2kg
Constitution	Solder Wire feeder, Iron Unit, Iron Tip, Power Cable
Options	Iron Unit Stand (AK-1) Foot Switch (can be connected) Solder Wire Feeding Tube

AM Iron Unit (Hand Gun Type)
Feeding Tube Type: TU*.*-***V
Solder Wire Diameter / Total Length

PM-S Iron Unit (Pencil Type)
Feeding Tube Type: TU*.*-***S
Solder Wire Diameter / Total Length

PM-L Iron Unit (Pencil Type)
Feeding Tube Type: TU*.*-***L
Solder Wire Diameter / Total Length

	Heater Type	Iron Tip
60W	C-60-6	AS-6**
100W	SA-100W	AS-8**
150W	SA-150W	AS-10**



Iron Unit Stand: AK-1 (Option)

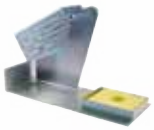
SZB-7000

High Power Soldering Station

This soldering station consists of a temperature controller and ZSB rollers which helps prevent the solder from spattering. This system is very efficient and easy to use. The SZB-7000 has two iron unit options to choose from: The pistol or pencil type iron unit.

Option

Iron Unit Stand



ZSB Feeder

Type : SZB-7000-□-＊＊-＊.＊

AM/PM　Solder Diameter

Vacant	Main Unit, Iron Unit
A	Main Unit, Iron Unit, AK-1
Z	Main Unit, Iron Unit, ZSB
AZ	Main Unit, Iron Unit, AK-1, ZSB

Iron Unit

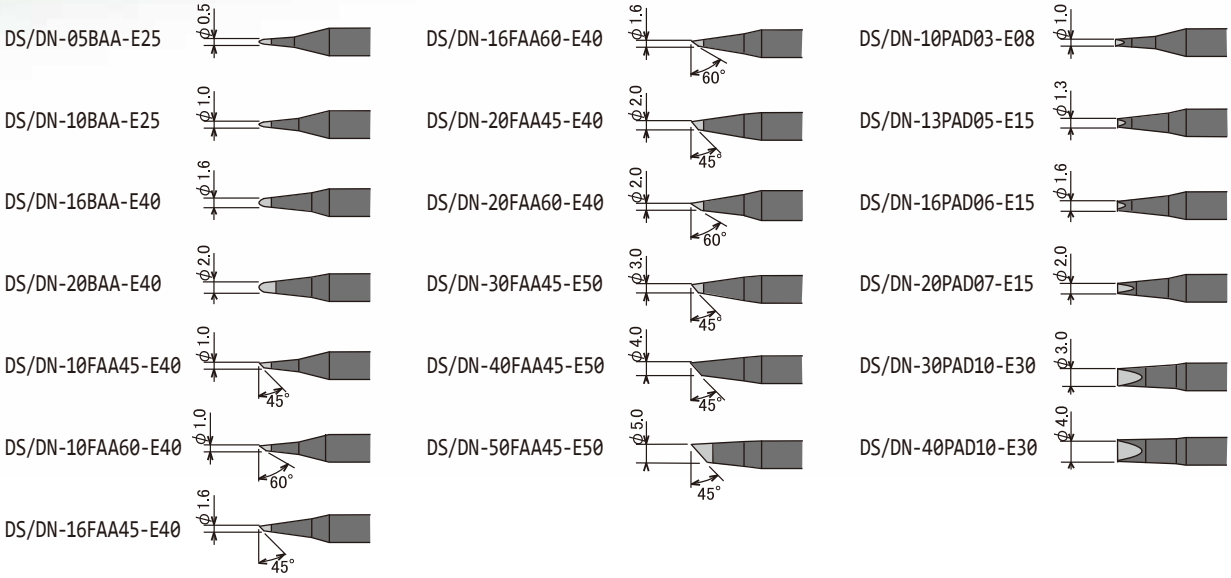
AM-DC Iron Unit
(Hand Gun Type)

PM-DC Iron Unit
(Pencil Type)

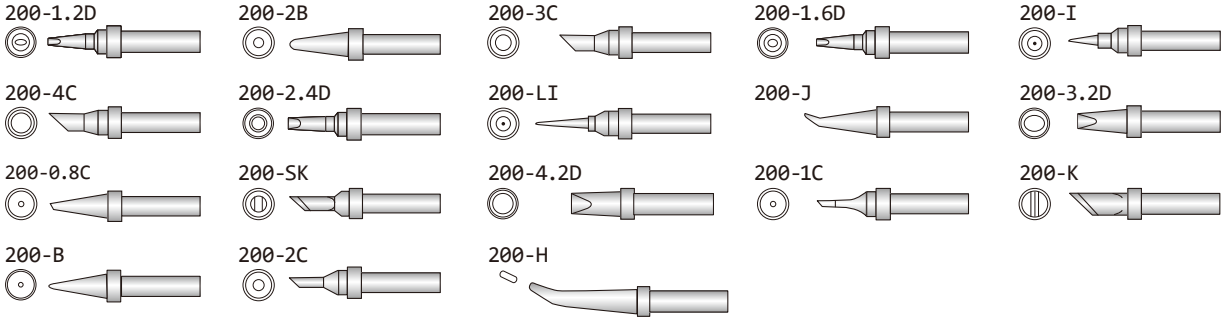
Model Number	SZB-7000
Solder Diameter	φ0.4~1.6㎜
Usable Iron Cartridge	DS Type (130V Heater)
Power Supply	AC100~240V (Single phase)
Power Consumption	195VA
Setting Temperature	0~500℃
Temperature Setting	PID control
Dimensions (WxDxH)	110×203×200mm (Main Unit)
Weight	4kg(Main Unit)
Solder Feed Speed	0~40mm/sec.

Iron Cartridge

TTM-3000N

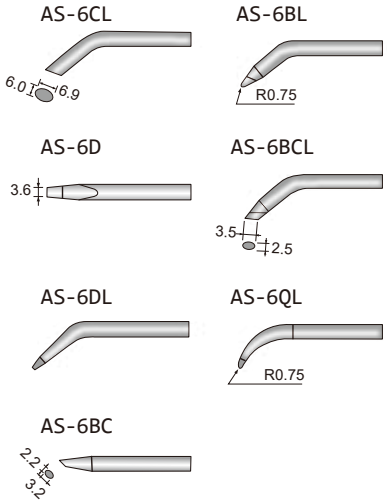


TTM-1000H

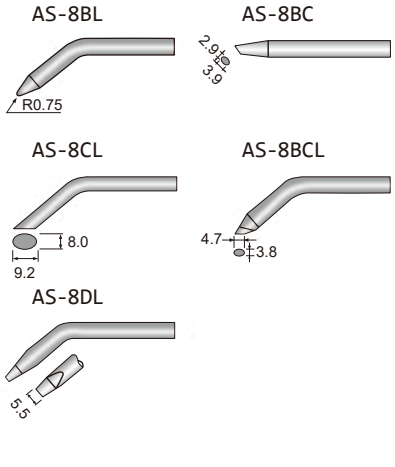


SSB

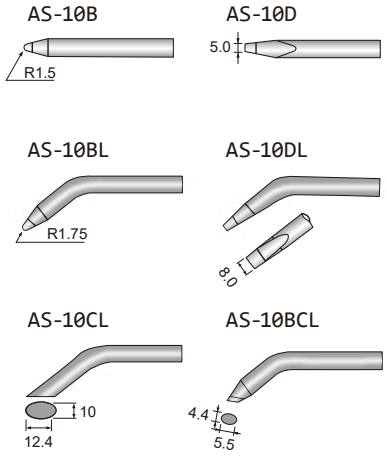
For 60W(C-60-6)



For 100W(SA-100W)



For 150W(SA-150W)



ZSB-10 / 16

Zero Solder Ball Feeder

The ZSB feeder has a built-in roulette cutting blade which creates evenly spaced holes while precisely feeding solder wire. During soldering, the flux is released evenly through these holes which provides consistent flux coverage without spattering.

Type	ZSB-10/16
ZSB-10	0.4~1.0mm *(0.3mm Optional)
ZSB-16	1.2~1.6mm
Weight	1.5kg
Size(WxDxH)	190×85×80mm
Power consumption	45VA
Power	AC100~240V multi adaptor
Accessories	Foot Switch, Power Cable
Option	Solder Wire Feeding Tube

WICK GUN

Wick Dispenser to Absorb Solder

The desoldering "Wick gun" is easy to feed and absorb solder. The used wick can easily be cut with one hand by pulling the built-in trigger.

Model 1000-1 Standard Parts
1 x Model 1000-1 dispenser
1 x W4015-1 cassette

Model 1000-1 Spare Parts	
Part No.	Description & Size (Width, Length)
W4015-1	Wick cassette #1, W=0.9mm L=4.57mm
W4015-2	Wick cassette #2, W=1.5mm L=4.57mm
W4015-3	Wick cassette #3, W=2.2mm L=4.57mm
W4015-4	Wick cassette #4, W=2.9mm L=4.57mm
W10010	Cutter blade

J-CAT GRT

Board Cutting Desktop Robot

With the addition of a router life sensor and a USB camera teaching function (option), the J-CAT GRT is much more efficient and allows for a more stable process.

Type	J-CAT320GRT	J-CAT 330GRT	J-CAT340GRT
Divisible area (W×D×H)	195×190×35mm	295×315×90mm	395×395×82mm
Dimensions (W×D×H)	350×439×632mm	618×586×657mm	647×640×665mm
Weight	26kg	42kg	51kg
Applicable BoardMaterials	Glass epoxy / Paper phenol laminate, etc.(Maximun thickness1.6mm)		
Tool Specifications	DC brushless motor Rated speed 40,000rpm		
Trace Accurancy	0.2mm（guide value） （When Router 0.8mm, Cutting speed 10mm/s, PCB thickness1.6mm）		
Vacuuming Method	Ejector		
Teaching Method	Remote teaching(JOG) / Manual data input(MDI)		
Power Supply	AC100~240V(Single phase) / 250VA		
Air Supply	0.5MPa (Only dry clean air)		
Air Consumption	200Nl/min		
Standard Accessories	Teaching pendant,Manual,Software(Factory installed),Dust collecting kit, Router bit(Consumable) Spare vacuum nozzle		

Powerful Swarf Collecting System

Spindle Motor Load Indicator

JC-3 Series

Cartesian robot

The multifunctional JC-3 Series Cartesian Robot comes complete with an easy-to-use dedicated controller and robot unit with a rich selection of stroke lengths for each axis.
Like our desktop robots, the JC-3 has convenient installation settings. Program teaching is easy; with the interactive method teaching pendant there is no need for complicated settings.

Type		JC-3A00-0T3 (One side holding)	JC-3A00-0H3 (Both-side holding)	JC-3B01-0H4 (Both-side holding)
Number of Axes		3 Axes Synchronous Control	3 Axes Synchronous Control	4 Axes Synchronous Control
Stroke	X Axis (mm)	200/300/400/500/600	300/400/500/600	300/400/500/600
	Y Axis (mm)	200/300	300/400/500	300/400/500
	Z Axis (mm)	50/100/150/200	50/100/150/200	100/150
	R Axis (deg)	–	–	±360
Drive Motor		Stepping Motor	Stepping Motor	Stepping Motor
	X Axis	Feedback Control	Feedback Control	Feedback Control
	Y Axis			
	Z Axis			Open Loop Control
	R Axis	–	–	
Maximum Portable Load (kg)		4	8	3
Maximum Speed <PTP Movement>	X Axis (mm)	200 300 400 / 500 600	300 400 / 500 600	300 400 / 500 600
	X Axis (mm/s)	700 / 800	700 / 800	700 / 800
	Y Axis (mm/s)	800	800	800
	Z Axis (mm/s)	400	400	400
	R Axis (deg/s)	–	–	900
R Axis Acceptable Moment of Inertia (kg/cm2)		–	–	90
Repeatability(mm)	X Axis (mm)	±0.02	±0.02	±0.02
	Y Axis (mm)	±0.02	±0.02	±0.02
	Z Axis (mm)	±0.02	±0.02	±0.01
	R Axis (deg)	–	–	±0.008
Control Method		PTP(Point to Point) control、CP(Continuous Path) control		
Interpolation		3-dimensional linear and arc interpolation		
Teaching Method		Remote Teaching (JOG)/Manual Data Input (MDI)		
External Input/Output		I/O-SYS： 16 Inputs/ 16 Outputs I/O-1：8 Inputs / 8 Outputs I/O-MT(Optional)：for auxiliary axes (pulse string input type*8) control, control up to 2 axes Fieldbus（Optional） ：Choose CC-Link / DeviceNet / PROFIBUS COM Port(RS232C)：COM1, COM2, COM3 （for external device control） EMG OUT: For external safety circuit connection MEMORY：For USB memory connection LAN：For PC connection via the Ethernet SWITCHBOX（Optional） ：Dedicated switchbox connector		
Power Source		AC90~240V (single phase) 50/60Hz + external DC48V (depending upon facility supply)		

Peripheral Equipment

J-CAT SCD

Screw Tightening Desktop Robot

There are two types of drivers, a Servo and mechanical torque driver.
The software of the robot can detect a jammed screw, loose screw and driver racing.

Type	J-CAT 320 SCD	J-CAT330 SCD	J-CAT 340 SCD
Move Area	X=200mm Y=200mm Z=50mm	X=300mm Y=320mm Z=100mm	X=400mm Y=400mm Z=150mm
Size (W×D×H)	268×387×554mm	560×535×659mm	556×631×807mm
Weight	28kg	39kg	47kg
Portable Weight	7kg	15kg	
Max Speed PTP X,Y Axis	700mm/sec.	900mm/sec.	
Z Axis	250mm/sec.	400mm/sec.	
Resolution	X, Y, Z Axis: +/- 0.01mm		
External I/O	I/0-SYS Input 16, Output 16		
Teaching Method	Remote Teaching (JOG) / Manual Data Input (MDI)		
Available Screw	M1.0 ~ M8.0 mm		
Output Torque	0.03 ~ 5.55 Nm		
Power Source	AC90~250V (Single Phase)		
Accessories	Operating Manual (CD-ROM), Power Cable		

J-CAT DSV

Dispensing Desktop Robot

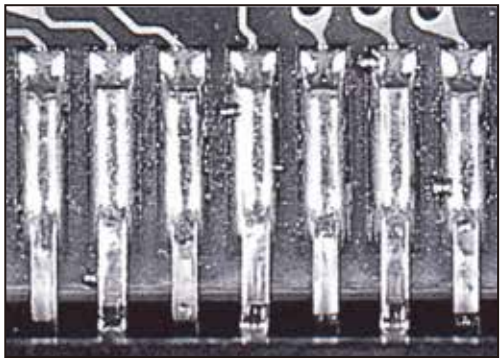
The J-CAT DSV has a push button to allow the robot to move to an area for dispense material purging. A rotary table can be added so it can be used as a 3-Axes + 1-axis robot(option). This robot can handle most dispensing applications.

J-CAT DSV Main Specification		
Type	J-CAT 200 DSV	J-Cat 300 DSV
Move Area	X=200mm Y=200mm Z=50mm	X=300mm Y=320mm Z=50mm
Size (W×D×H)	320×364×730 mm	560×511×891 mm
Weight	17kg	30kg
MAX SPEED PTP	500 mm/sec. (1~500mm/sec.)	
X, Y, Z Axes	200mm/sec. (2~200mm/sec.)	
Max Speed CP XYZ Axes	200mm/sec. (0.1~200mm/sec.)	
Portable Weight	Work 5kg, Tool 2kg	
Resolution Interpolating Function	X, Y, Z Axes: +/- 0.01mm 3-dimensional line and arc interpolation	
External I/O	I/O-SYS Input 8, Output 8 I/O-DSP Input 1, Output 2	
Teaching Method	Remote Teaching (JOG) / Manual Data Input (MDI)	
Power Source	AC90~250V (Single phase) / 150VA	
Air pressure	0.5 MPa Dry Air	
Accessories	Operational Manual (CD-ROM), Power Cable	

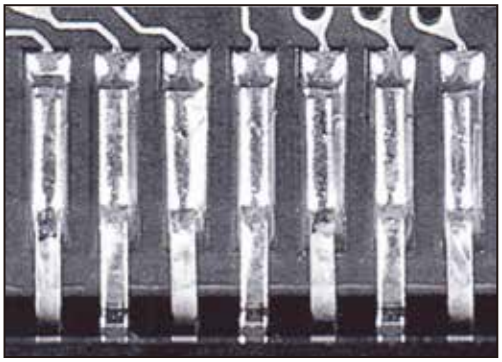
ZSB

The built-in roulette cutting blade makes evenly spaced holes while precisely feeding solder wire. During soldering, flux is released evenly through these holes. This provides consistent flux coverage without spattering and allows solder to melt on a clean, active surface.

Comparison test results:

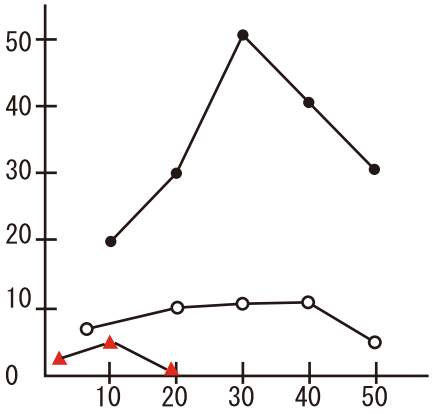


Solder ball spreading test without ZSB



Solder ball spreading test with ZSB

Test Results



- ● Normal (No cut)
- ○ V cut
- ▲ ZSB-10

Comparison Test Conditions

Iron Temperature	350°C
Solder Feeding Spread	10mm/sec
Solder Feeding Quality	100mm
Solder Diameter	0.5mm (.020")
	Sn60%Pb40%
	2%Flux

Options

Iron Tip Cleaners

Air Blow Iron Tip Cleaner

You can select the iron tip cleaner based upon your application.

CRB

CRB
Air blow from one direction

CRB-A2

CRB-A2
Air blow from two directions (front & back)

Rotary Iron Tip Cleaner

SRC-3000

The wet sponges rotate in one direction and clean the iron tip. The soldering material drops into the reservoir below to contain debris.

SRC-500DC

The wet sponges can be programmed to rotate forward and reverse based upon I/O signal to allow for more thorough tip cleaning.

BRC-3000

The stainless steel brush rollers rotates and removes oxides from the tip and are designed to be utilized in lead free process.

Nitrogen Gas Generator

Nitrogen gas helps eliminate oxidation of the iron tip and soldering surface.
It also increases solder wettability and provides better results and minimizes solder defects.

APN-05 For a desktop robot

Permeable Membrane System Ultra Small N2 Gas Generator

This is an ultra small N2 gas generator which can be built into a soldering robot or attached externally.

Model	APN-05
Air supply	0.5~0.6MPa(Only dry & clean Air)
Nitrogen Gas Flow	0.5l/min
Nitrogen Gas Con	99% (When nitrogen gas flow 0.5l/min)
Power Supply	AC100V~240V less than 1.4W
Dimension(W×D×H)	Approx 110×200×100mm
Weight	Approx 1.4kg
Accessories	Power Adapter, I/O Connector, Air Tube (2 types), Air Cock

APN-12 For desktop robots

PSA System Small N2 Gas Generator

It is a high performance model that can be used with more than one robot. It's compact design allows for greater portability.

Type	APN-12
Nitrogen Gas Flow	1.2NL/min
Nitrogen Gas Con	99.99%
Air Supply	0.65~0.7MPa(only dry & clean air)
Discharge Pressure	0.5MPa
Power Supply	AC100~240V 50/60Hz
Dimension(W×D×H)	Approx. 310×270×310mm
Weight	Approx. 18kg
Noise Value	50dB

KSM-M6R For selective flow system

PSA System Large N2 Gas Generator

This N2 gas generator has a color touch panel which controls the N2 concentration and displays the amount of fluid flow.

Type	KSM-M6R
Nitrogen Gas Flow	100NL/min
Nitrogen Gas Con	99.99%
Air Supply	0.75MPa(only dry & clean air)
Discharge Pressure	0.5MPa
Power Supply	220V 60Hz
Dimension(W×D×H)	1,260×420×1218mm
Weight	Approx. 500kg
Noise Value	65dB

NCM-02

N2/O2 Concentration Measuring Instrument

It can measure N2 concentration up to: 99.9%,
O2 concentration: 25%.
The level of N2 gas generation is measured precisely.

Type	NCM-02
Display Value	100 - O2 Concentration (%)
Measuring Range	99.9~75%(N2) 0.1~25%(O2)
Overall Accuracy	±1.0%FS (It conforms to O2)
Power Supply	AC100~220V (with an adaptor)
Power Consumption	Less than 15W
Weight	0.5kg
N2 Enclosing Port	for Φ4mm tube / One-Touch Connector

F71RH / FW71RH

Automatic Tip Position Correction Unit

This optical sensor prevents misalignment of a wearing iron tip.

Type	F71RH (For J-CAT Desktop robot) FW71RH (For JS Servo Scara robot)
Sensor	Optical sensor (For X/Y-axis) Low-contact touch sensor (For Z axis)
Correction Accuracy	±0.1mm (X/Y/Z- axis)
Power Supply	12~24 V DC
Weight	Approx. 0.8kg
Accessories	I/O SYS Cable. Attaching Plate

TTM-140

Tip Thermometer

The well-designed sensor allows for easy placement and accurate readings for iron tips.
It achieves stable measurement within seconds.

Type	TTM-140
Power Supply	AA battery LR6 × 4ppcs : 6V
Dimensions(W×D×H)	83×42×140mm
Weight	150g (w/o battery)
Temperature Resolution	1℃
Temperature Measuring Range	Sensor (TIM•140S) : 0~500℃ Probe (TIM•140SP) : 0~700℃
Temperature Accuracy	0~500℃ → ±3℃ / 501~700℃ → ±4℃ (excluding sensor error)
Operating Environment	0~50℃ 20~85%RH (no condensation)
Accessories	Sensor 3pcs / AA battery LR6x4 pcs

TTM-140SP
Sensor Probe
for Solder Pot

TTM-140S
Temperature Sensor
(3pcs)

Options

SC+A

Soldering Application Position Calibration System

This position calibration camera has been designed exclusively for use with our soldering robots. It can be installed on both the J-CAT and JS SCARA robots.

Type	SC+A
Mountable Robot	J-CAT / JS series
Sensor	1/1.8" Color CMOS sensor / Rolling shutter
Image Processing	FPGA High speed picture processing engine(Incorporating Camera)
Effective Pixels	1600×1200
Search Method	Pattern matching (with Masking function / Pre-processing filter)
Registered Model Number	100 models (with retry functions)
Setting Method	No PC necessary / Enable to set by main unit
Robot Coordinates Calibration	X,Y,R-Axes
Accessories	Camera for position calibration, Lens, Ring lightning (White), Mounting bracket, Converter, PoE injector, LAN cable 3pcs

CSS-2100

Small Soldering Camera Monitor

The micro cameras easily attach to the Apollo soldering robot. The function of the CMOS camera is for teaching and process monitoring. Due to the miniature size, each camera can be easily integrated on all Apollo robots.

Type	CSS-2100
Sensor	1/4 inch color CCIQ II
Indication pixel	316K pixel
Resolution	400 TV line
Picture signal	NTSC video
Focus distance (Min.)	About 20 mm
Min. vision area	About 5 mm(D) x 40 mm(W)
Focus distance (Max.)	About 100 mm
Max. vision area	About 30 mm(D) x 40 mm(W)
Ambient environment	-10C~45C, 85% no condensation
Voltage	DC5~12V (AC 100~240V Multi Adaptor)
Power consumption	50mA
Accessories	Attaching Bracket, Adapter, Power+Data Cable

CVR-2100

High-Quality Portable Video Recorder

By connecting to CSS-2100 of CMOS camera, this recorder allows real-time recording of the soldering process without a PC. The stored data on the SD card makes it easy to transfer to a PC.

Type	CVR-2100
Memory Type	SD card (Max. 32GB)
Resolution	1280×720 pixels
Video Input	Composite AV input
Video Output	HDMI / Composite AV output
Weight	260g
Dimensions (W×D×H)	75×25×130mm
Battery	4400mAH (Max. recording time 9h)
Accessories	Multi-adapter, USB cable, AV cable

Fume Extractor

Solder fumes can irritate eyes, nose and throat.
Also, they could cause problems if the fumes accumulate on the equipment.
For these reasons, we recommend the use of the fume extractor. We offer three types of Fume Extractor systems.

VAC-1000

VAC-3000

If there is no air duct near the work space, use the VAC-3000 together with VAC-1000. Three carbon filters make solder fumes and exhaust clean.

Type	VAC-3000
Filtering Rate	More than 95%,0.3μm
Vacuum Type	Ejector
Air supply	0.5Mpa (Dry Air)
Noise Level	Below 82dB
Size(W×D×H)	194×170×308mm
Weight	Aprrox. 4.0kg

VAC-4001A / VAC-4002A

This triple filtering design allows for 99.97% efficiency. The equipped DC motor is low noise, low vibration and low power consumption. The high-power motor generates large air flow.

Type	VAC-4001A	VAC-4002A
Power Supply	100~110V AC or 220~240V AC	100~110V AC or 220~240V AC
Power Consumption	120W	250W
Air Flow	140㎥/h	250㎥/h
System Flow (Including filter)	120㎥/h	100㎥/h×2
Filtering Efficiency	99.97% (0.3μm)	99.97% (0.3μm)
Duct Hose Length	φ75mm×1500mm	φ75mm×1500mm×2
Static Pressure	2400Pa	3000Pa
Noise	60dB	65dB
Size (WxDxH)	420×230×430mm	470×230×500mm
Weight	13.4kg	14.2kg

Solder fumes are vacuumed through a silicone tube mounted directly to the point of soldering. The combination of the two filtering units (pre-filter & HEPA filter) removes all harmful gases, thus preventing flux build-up on the iron and extending tip life all while keeping the environment clean and safe.

System15 Specifications

Filtering Rate	More than 99.997%,0.3μm (HEPA)
Vacuum Type	IP54 Synchronous (Brushless) motor
Air Flow	70m3/Hr
Noise Level	Below 50dB
Size(W×D×H)	360×330×500mm
Power	AC230V 1ph 50Hz or 110V 1ph 60Hz

Purex Specifications

Filtering Rate	More than 99.997%
Wattage	50W / 75W
Air Flow	100m 3/hr 59cf/m
Noise Level	52 dBA
Size(W×D×H)	455×480×720mm
Power	AC230V +/- 10%, 120V +/- 10%

robots

Options

YPH-10

The stainless steel sleeve is equipped with two heaters to pre-heat the solder wire as it is being fed. This helps to prevent solder ball spattering by pre-heating the solder wire & internal flux. This is designed to be used with large diameter solder wire and is effective in reducing tact/cycle time as well as improving quality in lead free and tin/lead applications.

Type	YPH-10
Setting Temperature	0~150°c
Heater Capacity	10W
Power Source	AC100~240V(Single Phase)
Solder Diameter	ϕ1.0~1.6 mm
Constitution	Temperature Controller, Solder Wire Heater, Attaching Bracket, Heater Cable,Power Cable, Feeding Tube

Tube type…TAL-*.*-***Y

Solder wire Diameter

Tube total length

DRC-1300 For SLV

Drill Cleaner

The rotating drill bit removes the dross inside the sleeve.

Type	DRC-1300
Dimensions (W×D×H)	91.5×130×120.7mm
Rotation Speed	Approx. 8000rpm
Power Source	24V DC (30mA)
Drill Diameter	φ1.1 / φ1.3 / φ1.5 (Choose one)
Weight	Approx. 1.7kg
Accessories	Drill bit 1 piece

CCH-700 For SLV

Cleaning Heater

This cleaner heats the ceramic sleeve and burns out the dross inside.

Type	CCH-700
Dimensions (W×D×H)	170×247×167mm
Heater	135W
Max. Temperature	700℃
Power Source	AC85~264V(Single phase)

Options

High Quality Lead Free Solder

Introducing the Apollo Seiko solder material lineup, cored-wire, bar and paste for robotics. All products are high quality solder, providing for good wettability and less spattering of lead free materials.

Flux-Cored Solder			
Flux Type	Alloy Composition	Flux Content	Characteristic
C114	01 Sn96.5 Ag3 Cu0.5	4.0%	Good wettability
C214	01 Sn96.5 Ag3 Cu0.5 02 Sn99 Ag0.3 Cu0.7	4.0%	High reliability
C215	01 Sn96.5 Ag3 Cu0.5 02 Sn99 Ag0.3 Cu0.7 03 Sn99.3 Cu0.7	4.0%	Halogen Free
C216	01 Sn96.5 Ag3 Cu0.5 02 Sn99 Ag0.3 Cu0.7 03 Sn99.3 Cu0.7	4.0%	High reliability
C116	01 Sn96.5 Ag3 Cu0.5	4.0%	Usable high temperature
Paste Solder			
Flux Type	Alloy Composition	Flux Content	Characteristic
P114	01 Sn96.5 Ag3 Cu0.5	11.0%	High reliability
	02 Sn99 Ag0.3 Cu0.7		Low silver, High reliability
Bar Solder			
Type	Alloy Composition		Characteristic
ASB01	01 Sn96.5 Ag3 Cu0.5		High reliability
ASB02	02 Sn99 Ag0.3 Cu0.7		Low silver
ASB03	03 Sn99.3 Cu0.7		Silver less

*Available in various solder wire diameters, forms, flux contents.

BONPEN

Flux Dispenser Pen

This flux pen enables fine and accurate flux application. Various shapes of pen tips are available including both flat or bullet shape.

BON-102 BON-102T BON-102D BON-102B BON-102F BON-102K BON-102S

CYBERSOLV C8502

Full Strength Maintenance Cleaner

This flux remover is a non-flammable solvent specifically designed to remove flux residues.

*The small size is for trial.

Iron Cartridge

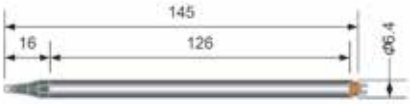
Many types of iron cartridges are available with varying heater types & overall length

DS: DC48V: Total length 101mm　DM: DC48V: Total length 145mm
TS: AC100V: Total length 101mm　TM: AC100V: Total length 145mm
DN: DC48V: Total length 101mm with nitrogen sleeve

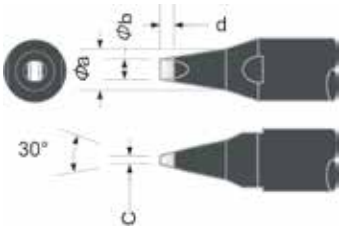
Configuration: Type - "Size & Tip" shape
(Eg: DS-08PAD03-E08)

TS/DS/DN (Old Type : TS/DCS/DCN)
Cartridge

TM/DM (Old Type : TM/DCM)
Cartridge

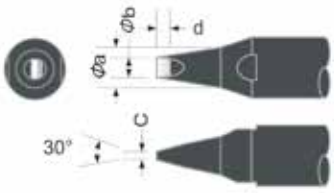


PAD/PDS



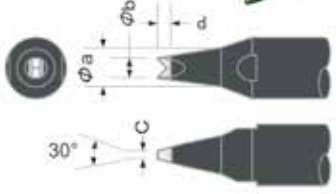
Type	a(㎜) diameter	b tip width	c thickness	d plating size
＊＊-08PAD03-E08	3	0.8	0.3	0.8
＊＊-10PAD03-E08	3	1.0	0.3	0.8
＊＊-13PAD05-E15	4	1.3	0.5	1.5
＊＊-16PAD06-E15	4	1.6	0.6	1.5
＊＊-20PAD07-E15	4	2.0	0.7	1.5
＊＊-24PAD08-E15	4	2.4	0.8	1.5
＊＊-30PAD10-E30	5	3.0	1.0	3.0
＊＊-40PAD10-E30	5	4.0	1.0	3.0
＊＊-50PDS-E40	5	5.0	1.3	4.0
＊＊-60PDS-E40	6	6.0	1.3	4.0
＊＊-80PDS-E50	8	8.0	1.6	5.0

PAD/PDS



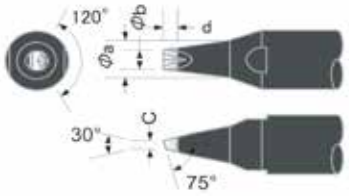
Type	a(㎜) diameter	b tip width	c thickness	d plating size
＊＊-08PAD03-B08	3	0.8	0.3	0.8
＊＊-10PAD03-B08	3	1.0	0.3	0.8
＊＊-13PAD05-B15	4	1.3	0.5	1.5
＊＊-16PAD06-B15	4	1.6	0.6	1.5
＊＊-20PAD07-B15	4	2.0	0.7	1.5
＊＊-24PAD08-B15	4	2.4	0.8	1.5
＊＊-30PAD10-B30	5	3.0	1.0	3.0
＊＊-40PAD10-B30	5	4.0	1.0	3.0
＊＊-50PDS-B40	5	5.0	1.3	4.0
＊＊-60PDS-B40	6	6.0	1.3	4.0
＊＊-80PDS-B50	8	8.0	1.6	5.0

PDZ



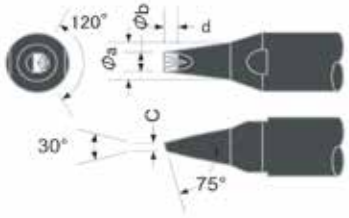
Type	a(㎜) diameter	b tip width	c thickness	d plating size
＊＊-13PDZ08-EZ15	4	1.3	0.5	1.5
＊＊-16PDZ12-EZ15	4	1.6	0.6	1.5
＊＊-20PDZ14-EZ15	4	2.0	0.6	1.5
＊＊-24PDZ16-EZ15	4	2.4	0.8	1.5
＊＊-30PDZ20-EZ30	5	3.0	1.0	3.0
＊＊-40PDZ24-EZ30	5	4.0	1.0	3.0
＊＊-50PDZ35-EZ40	5	5.0	1.3	4.0

GDV



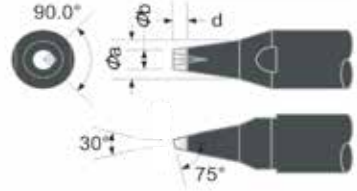
Type	a(㎜) diameter	b tip width	c thickness	d plating size
＊＊-10GDV07-EZ10	3	1.0	0.4	1.0
＊＊-13GDV08-EZ15	4	1.3	0.5	1.5
＊＊-16GDV10-EZ15	4	1.6	0.6	1.5
＊＊-20GDV14-EZ15	4	2.0	0.8	1.5
＊＊-24GDV14-EZ15	4	2.4	0.8	1.5
＊＊-30GDV17-EZ30	5	3.0	1.0	3.0
＊＊-40GDV17-EZ30	5	4.0	1.0	3.0
＊＊-50GDV17-EZ40	5	5.0	1.0	4.0
＊＊-60GDV23-EZ40	6	6.0	1.3	4.0

GDV



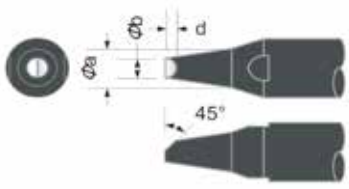
Type	a(㎜) diameter	b tip width	c thickness	d plating size
＊＊-10GDV07-BZ10	3	1.0	0.4	1.0
＊＊-13GDV08-BZ15	4	1.3	0.5	1.5
＊＊-16GDV10-BZ15	4	1.6	0.6	1.5
＊＊-20GDV14-BZ15	4	2.0	0.8	1.5
＊＊-24GDV14-BZ15	4	2.4	0.8	1.5
＊＊-30GDV17-BZ30	5	3.0	1.0	3.0
＊＊-40GDV17-BZ30	5	4.0	1.0	3.0
＊＊-50GDV17-BZ40	5	5.0	1.0	4.0
＊＊-60GDV23-BZ40	6	6.0	1.3	4.0
＊＊-80GDV60-BZ50	8	8.0	1.6	5.0 V150°

GAV



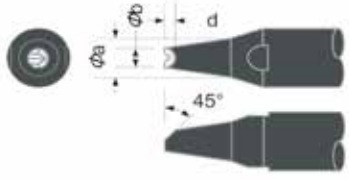
Type	a(㎜) diameter	b tip width	c thickness	d plating size
＊＊-20GAV14-EZ15	4	2.0	—	1.5
＊＊-24GAV17-EZ20	4	2.4	—	2.0
＊＊-30GAV21-EZ30	5	3.0	—	3.0
＊＊-40GAV28-EZ30	5	4.0	—	3.0

PCA/PCS



Type	a(㎜) diameter	b tip width	c thickness	d plating size
＊＊-10PCA-B	3	1.0	—	—
＊＊-13PCA-B	3	1.3	—	—
＊＊-16PCA-B	4	1.6	—	—
＊＊-20PCA-B	4	2.0	—	—
＊＊-24PCA-B	4	2.4	—	—
＊＊-30PCA-B	5	3.0	—	—
＊＊-40PCA-B	5	4.0	—	—
＊＊-50PCS-B	5	5.0	—	—
＊＊-60PCS-B	6	6.0	—	—
＊＊-80PCS-B	8	8.0	—	—

PCZ

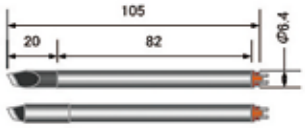


Type	a(㎜) diameter	b tip width	c thickness	d plating size
＊＊-20PCZ10-BZ	4	2.0	—	—
＊＊-24PCZ12-BZ	4	2.4	—	—
＊＊-30PCZ14-BZ	5	3.0	—	—
＊＊-40PCZ16-BZ	5	4.0	—	—
＊＊-50PCZ24-BZ	5	5.0	—	—

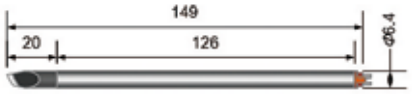
Iron Cartridge

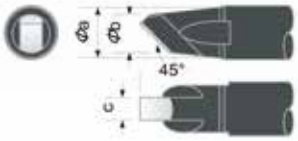
Slide Soldering Iron Cartridge

TS/DS/DN (Old Type : TS/DCS/DCN)
Cartridge



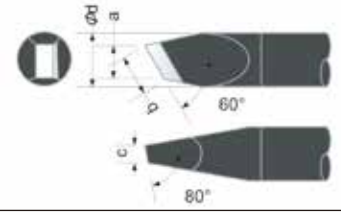
TM/DM (Old Type : TM/DCM)
Cartridge





KAA

Type	a (mm) diameter	b tip width	c thickness	d plating size
＊＊-16KAA45-B	6.0	3.4	1.6	—
＊＊-20KAA45-B	6.0	3.4	2.0	—
＊＊-24KAA45-B	6.0	4.0	2.4	—
＊＊-30KAA45-B	6.0	4.5	3.0	—
＊＊-40KAA45-A	6.0	5.5	4.0	—
＊＊-50K45AS-A	6.0	6.0	5.0	—

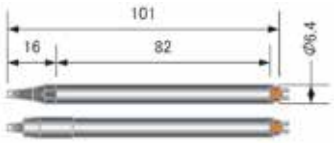


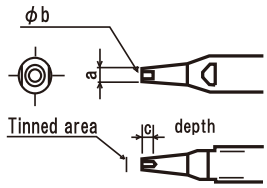
RDD

Type	a (mm) tip width	b	c thickness	d diameter
＊＊-20RDD-B20	2.0	—	0.6	6.4
＊＊-24RDD-B20	2.4	—	0.6	6.4
＊＊-30RDD-B20	3.0	—	0.6	6.4
＊＊-40RDD-B20	4.0	—	0.9	6.4
＊＊-50RDD-B20	5.0	—	1.3	8.0

UP Type Iron Cartridge

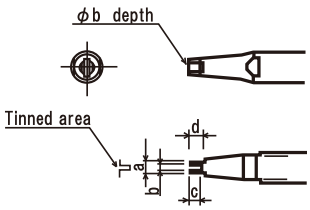
TS/DS/DN
(Old Type : TS/DCS/DCN)
Cartridge





PAH

Type	a (mm) tip diameter	b hole diameter	c hole depth	d plating size
＊＊-14PAH08-F-AZ	1.4	0.8	1.6	—
＊＊-20PAH13-F-AZ	2.0	1.3	2.5	—
＊＊-26PAH18-F-AZ	2.6	1.8	2.5	—
＊＊-32PAH22-F-AZ	3.2	2.2	3.0	—
＊＊-40PAH30-F-AZ	4.0	3.0	3.0	—

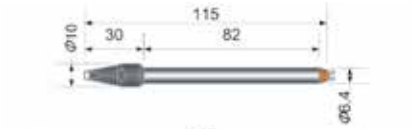


PSW

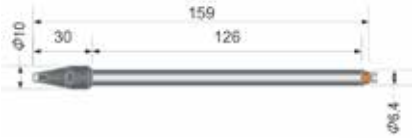
Type	a (mm) tip width	b ditch width	c ditch depth	d plating size
＊＊-16PSW08-F-AZ	1.6	0.8	2.5	—
＊＊-22PSW11-F-AZ	2.2	1.1	2.5	—
＊＊-30PSW15-F-AZ	3.0	1.5	3.0	—

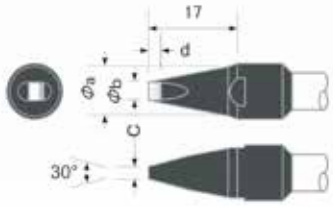
Heat Storage Type Iron Cartridge

TB/SB (Old Type : TSB/DCSB)
Cartridge



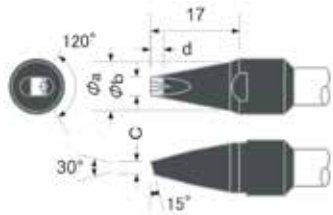
MB/DB (Old Type : TMB/DCNB)
Cartridge





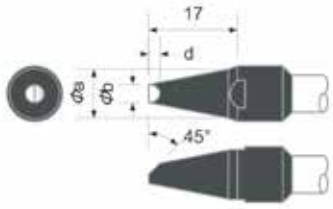
PAD

Type	a (mm) diameter	b tip width	c thickness	d plating size
＊B-16PAD06-B20	7	1.6	0.6	2.0
＊B-20PAD07-B20	7	2.0	0.7	2.0
＊B-24PAD08-B20	7	2.4	0.8	2.0
＊B-30PAD10-B30	8	3.0	1.0	3.0
＊B-40PAD10-B30	8	4.0	1.0	3.0
＊B-50PAD10-B30	8	5.0	1.0	3.0



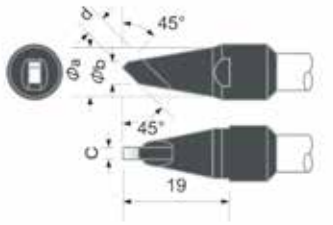
GDV

Type	a (mm) diameter	b tip width	c thickness	d plating size
＊B-16GDV10-BZ20	7	1.6	0.6	2.0
＊B-20GDV12-BZ20	7	2.0	0.7	2.0
＊B-24GDV14-BZ20	7	2.4	0.8	2.0
＊B-30GDV17-BZ30	8	3.0	1.0	3.0
＊B-40GDV17-BZ30	8	4.0	1.0	3.0
＊B-50GDV23-BZ40	8	5.0	1.3	4.0



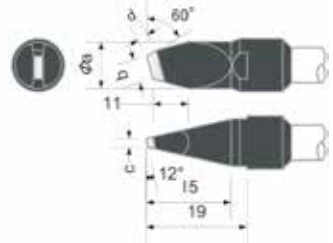
PCA

Type	a (mm) diameter	b tip width	c thickness	d plating size
＊B-24PCA-B	7	2.4	—	—
＊B-30PCA-B	8	3.0	—	—
＊B-40PCA-B	8	4.0	—	—



KAA

Type	a (mm) diameter	b tip width	c thickness	d plating size
＊B-16KAA45-B10	8	3.4	1.6	—
＊B-24KAA45-B10	8	4.0	2.4	—
＊B-30KAA45-B10	8	4.5	3.0	—
＊B-40KAA45-B10	8	5.5	4.0	—



RDD

Type	a (mm) diameter	b tip width	c thickness	d plating size
＊B-30RDD-B15	8	3.0	0.6	1.5
＊B-40RDD-B20	8	4.0	0.9	2.0
＊B-50RDD-B25	8	5.0	1.3	2.5

Iron Cartridge

One Touch Quick Change Iron Cartridge DX

The patented design of the one-touch quick-change DX iron is easy to change and there is no position variation after tip replacement.

Custom Made Iron Cartridge

Upon request, various custom tips can be made. Feel free to request.

Solder Wire Feeding Tubes

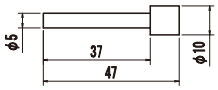
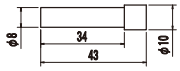
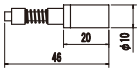
The flexible double layer solder feed tube provides for smooth and precise feeding of solder wire. Please specify the optimal tube set for the robot unit along with the solder wire diameter and point/slide soldering.

Configuration: TAL | 1.0 — 650 | S60

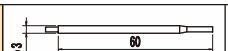
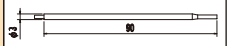
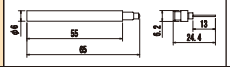
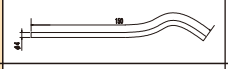
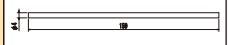
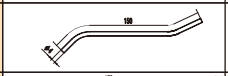
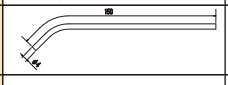
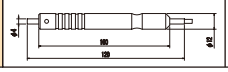
Solder Wire Diameter

Eg) Point soldering feeding tube
Solder Wire Diameter: 1.0mm
Total length:650mm

Tube Type

TAL		L-CAT NEO-N L-CAT EVO-Ⅱ J-CAT Series JS SCARA Series TERRA-SP LUNA-LCO / LSP YPH-10 (SSA)
TR		SSA
TU		SSB
TZB		ZSB-10/16 SZB-7000

Nozzle Type

S60		For Point Soldering, SSA (Solder Diameter Φ0.3 - 1.2mm)
		For Point Soldering, SSA (Solder Diameter Φ1.4 - 2.0mm)
S90		For Slide Soldering, SSA (Solder Diameter Φ0.3 - 1.2mm)
		For Slide Soldering, SSA (Solder Diameter Φ1.4 - 2.0mm)
N55		Needle Type*
Y	No nozzle	For YPH-10
L		For SSB PM-L Iron Unit (Pencil) For SZB PM-DC Iron Unit (Pencil)
S		For SSB PM-S Iron Unit (Pencil)
R		For SZB AM-DC Iron Unit (Hand Gun)
V		For SSB AM Iron Unit (Hand Gun)
H120		For ZSB-10/16

Tube Total Length

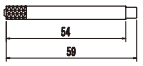
The requested length can be fabricated.
Recommended Length is as follows:

Model	Point Soldering	Slide Soldering
L-CAT NEO-N	650mm	780mm
L-CAT EVO-Ⅱ	450mm	600mm
J-CAT320	650mm	780mm
J-CAT330	750mm	880mm
J-CAT340	750mm	880mm
JS series	650~850mm	
TERRA-SP LUNA-LCO / -LSP	1500mm	
SSA/SSB/SZB-7000	1500mm	
ZSB-10/16	700mm	

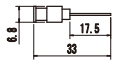
For KTU tube set, please order the following three parts.

TAL＊.＊-＊＊＊ (Tube)

KTU-HOL(Needle Holder)



KTU-N＊.＊(Needle)



Solder Wire Diameter

*N55 Needle Size: N55-N＊.＊

Solder Wire Diameter

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