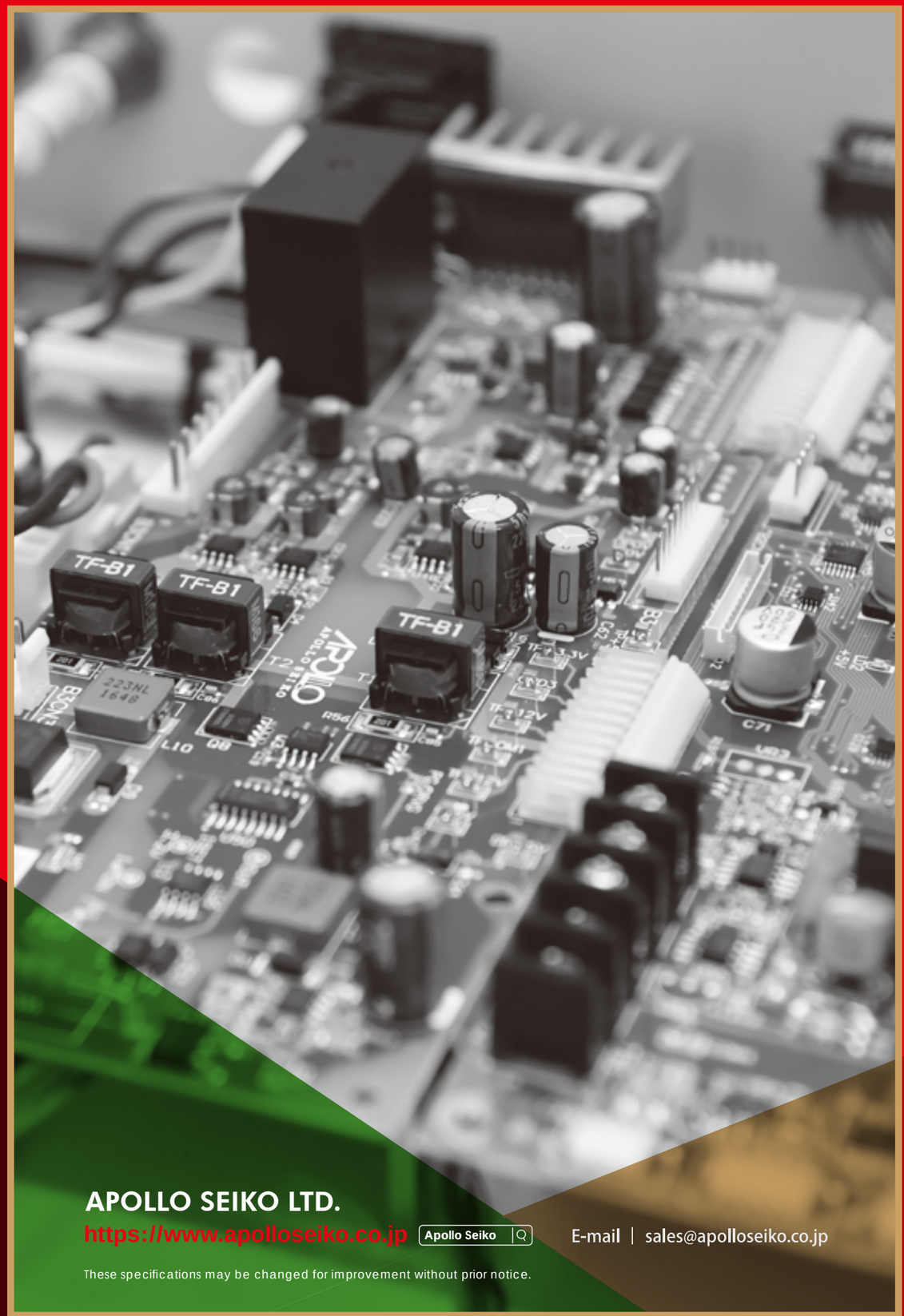


APOLLO SEIKO LTD.

https://www.apolloseiko.co.jp Apollo Seiko

E-mail | sales@apolloseiko.co.jp

These specifications may be changed for improvement without prior notice.

Catalog

2021-2022 Product Catalog

APOLLO SEIKO LTD.

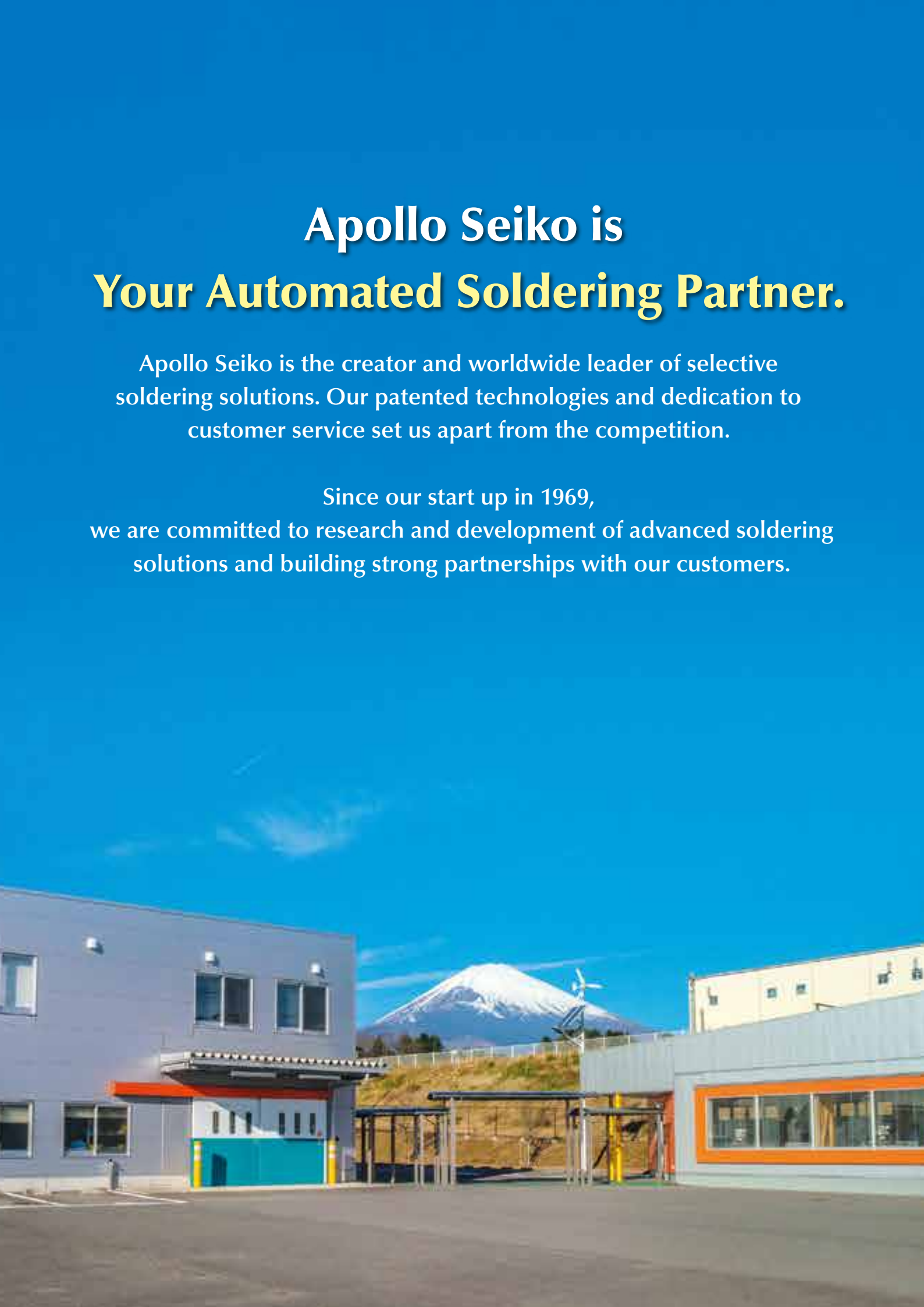
APOLLO SEIKO

Your Automated Soldering Partner

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.



"Leverage 51 Years of Soldering Excellence and Innovation"

We, Apollo Seiko Ltd. have been established since 1969 and the year 2021 is our 52nd year in business.

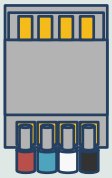
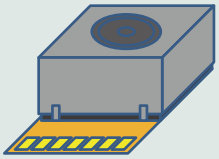
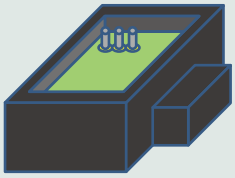
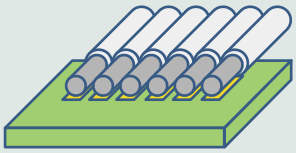
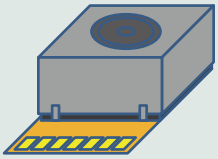
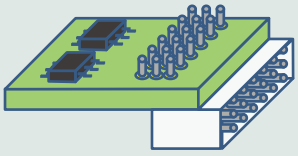
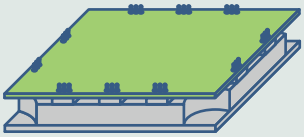
Our vision has always been to invent, build, and strive to modernize automated soldering methods that increase output and quality by providing a precise and repeatable process.

As we look to the future, we recognize innovative products have never simply been enough. Our success is highly attributed to our valuable customers and we are immensely grateful for the partnerships we have established over the past 51 years. One of the core values of the Apollo Seiko Global Family Network is to provide professional technical service and friendly support unmatched by any of our competitors.
We will continue to provide solutions and engineer products to meet our expectations as well as the high expectations of our customers and industry. From automotive to biotechnology, we believe all electronics industries can benefit from automated soldering.
We sincerely thank you for your continued loyalty, guidance and support in the future.

Koichi Hirosaki
President and CEO
Apollo Seiko Ltd.

Apollo Seiko Global Family

Selective Soldering Technologies

Method		Application Example	
Substitution of 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

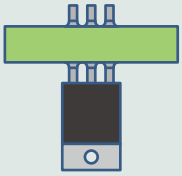
Capacitor + Terminal

P7~

Manual Soldering

- Manual Soldering Station
- Solder Wire Feeder

P33~



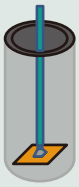
Perfect Back Fillet

P21~

Soldering Peripheral Equipment

- Dispensing
- Screw Tightening
- Board Cutting etc.

P39~



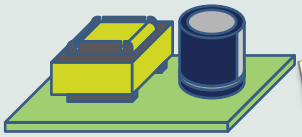
Fine Pitch and Micro Soldering

P25~

Options

- Iron Tip Cleaner
- Fume Extractor etc.

P41~



High Heat Capacity Parts

P29~

Consumable Items

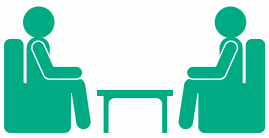
- Solder Wire
- Solder Wire Feeding Tube
- Iron Cartridge etc.

P48~

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

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

Proposal

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

Delivery

- Field work
- Acceptance inspection
- Training
- Maintenance method

Follow-up

- 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 49~

- Just 8 seconds to exchange the 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 18

Micro Adjust Unit

This feature allows fast, easy adjustment of the solder wire feed 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 41

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 robots are designed with safe, low-voltage and eco-friendly low-power components.
The multiple power input has been designed for world-wide factory use and easy transfer to overseas 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 198 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 900mm/sec.

Options

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

Position Calibration Camera

SC+AⅡ

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 soldering sequence. 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 to provide solutions for joints with high thermal capacity, fine pitch components, 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=300mm, Y=300mm Z=60mm, R=340° 520×995×714mm 50kg	
L-CAT-EVO-Ⅱ 4430 Operation Range Dimensions (W×D×H) Weight	X=400mm, Y=300mm Z=60mm, R=340° 620×995×714mm 52kg	
L-CAT-EVO-Ⅱ 4540 Operation Range Dimensions (W×D×H) Weight	X=500mm, Y=400mm Z=60mm, R=340° 720×1,100×714mm 55kg	
Soldering Condition	198Conditions	
Soldering Step	21Steps	
Setting Temperature	0~500℃	
Solder Feeding Speed	1~50.0(mm／sec.)	
Timer	0.1~99.9(sec.)	
Iron Up/Down	ON／OFF	
Solder Wire Diameter	Using ZSB Feeder	Φ0.4~1.0mm (Option: Φ0.3mm)
	Using Normal Feeder	Φ0.3~1.0mm
	Using Large Diameter Feeder	Φ1.2~2.0mm
Heater Capacity	200W(Max.)	

Drive Method	5 Phase stepping motor X, Y Axes with encoder
X, Y Axes	900mm／sec.
Z Axis	150mm／sec.
R Axis	360°／sec.
Teaching Method	Remote teaching (JOG) Manual Data Input (MDI)
Program Capacity	100 programs
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	0.01mm
Repeatability	±0.02mm
Portable Weight	3kg
Power Source	AC94~260V (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

New Gantry Type Soldering Robot

This next generation robot has all the necessary functions for soldering.
The L-CAT NEO-N has been designed for an in-line or off-line process flow.
It has been enhanced with a more sophisticated design and high-speed operating performance.
The built in monitor displays the soldering process and helps to program 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.

Options

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

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 tablet PC.
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) It 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 : 1,200mm/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 Wire Diameter	Using ZSB Feeder	Φ0.4~1.0mm(Option: Φ0.3mm)		
	Using Normal Feeder	Φ0.3~1.0mm		
	Using Large Diameter Feeder	Φ1.2~2.0mm		
Heater Capacity		200W(Max.)		
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.

Angle Adjustable Iron Unit (Option)

The ARC-5000 can adjust the angle of the iron unit at each soldering point. Even if there is limited space.This allows the iron tip to gain access to difficult to reach soldering locations.

Dual Iron Units & Feeders (Option)

The high-powered Lyra controller can operate two solder feeders & iron units at the same time. This provides for a reduction in cycle time by 50%. The dual head concept also assists with reducing labor as one operator / robot can provide twice the output as a single head system.

Options

ZSB Feeder

Air Blow Cleaners

CRB　CRB-A2　Rudra*

*Rudra can only be used with the ARC-5000

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+AⅡ

Tip Thermometer

TTM-140

Type		J-CAT320LYRA	J-CAT330LYRA	J-CAT340LYRA
Operation Range	X Axis	200mm	300mm	400mm
	Y Axis	200mm	320mm	400mm
	Z Axis	50mm	100mm	150mm
	R Axis	±360°		
Resolution / Repeatability *	X, Y, Z Axes	0.01mm / ±0.01mm		
	R Axis	0.08° / ±0.008°		
External Input / Output		Input: 16 Output: 16		
Program Capacity		999 programs		
Memory Capacity		32,000 points		
Soldering Condition		Point and Slide Total: 500 conditions		
Setting Temperature		0~500℃		
Solder Feeding Speed		1.0~50.0mm/sec.		
Solder Feeding Amount Resolution		0.1mm		
Solder Wire Diameter	Using ZSB Feeder	Φ0.4～1.0mm (Option: Φ0.3mm)		
	Using Normal Roller	Φ0.3～1.0mm		
	Using Large Diameter Feeder	Φ1.2～2.0mm		
Heater Capacity		200W (Max.)		
Air Supply		0.4~0.5MPa (Dry & Clean Air)		
Display Language		English, French, German, Italian, Czech, Spanish, Japanese, Chinese, Korean, Vietnamese		
Power Source		AC94~260V (Single Phase)		
Power Consumption		400W		

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

Electric Arch	
Type	ARC-5000
Operation Range	-30°~+25°
Motor Specification	Stepping motor with the reduction gear (Harmonic drive®) (without encoder) Basic step angle: 0.018 degrees /pulse (Positioning accuracy ±0.006 degrees)
Speed	Maximum Speed:420deg/s Maximum Acceleration: 210deg/s²
Mountable Robot	J-CAT3□□ LYRA Soldering robot (It cannot be attached to J-CAT320 robot) JS-3 LYRAⅡ Soldering robot JC-3 LYRAⅡ Soldering robot

Harmonic Drive is a registered trademark of Harmonic Drive Systems INC.

SR-LYRA Ⅱ

Soldering SCARA Robot

Combining our latest soldering unit LYRA Ⅱ and a highly-reliable SCARA-robot from FANUC, the optimal solution for soldering was created.

High Productivity and Precision

This robot represents the Apex of productivity and precision in the market.

Compact Body and Controller

This light weight robot and compact controller allow for fast and efficient production line design and layout.

LYRA Ⅱ +SR Controller

Type		SR400-LYRA Ⅱ	SR650-LYRA Ⅱ
Operation Mode		Horizontal Articulated Robot	
Controlled Axes		4-axes(J1、J2、J3、J4)	
Motion Range		400mm	650mm
Operation Range (Max operation speed)	J1 axis	±142°(720°/s) 2.48rad(12.57rad/s)	±148°(440°/s) 2.58rad(7.68rad/s)
	J2 axis	±145°(780°/s) ±2.53rad(13.61rad/s)	±150°(700°/s) ±2.62rad(12.22rad/s)
	J3 axis stroke	200mm(1,800mm/s)	210mm(2,000mm/s)
	J4 axis	±360°(3,000°/s) 6.28rad(52.36rad/s)	±360°(2,500°/s) 6.28rad(43.63rad/s)
Wrist Part Portable Weight		3kg	6kg
Repeatability*	J1 + J2 axis	±0.01mm	±0.01mm
	J3 axis	±0.01mm	±0.01mm
	J4 axis	±0.004°	±0.004°
Weight of Robot (The controller unit is not included)		19kg	30kg

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

Options

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

Pre-Heater

YPH-10

Micro Monitoring Camera

CSS-2100

High-Quality Portable Video Recorder

CVR-2100

iRVision

Tip Thermometer

TTM-140

JS-3 LYRA Ⅱ

Soldering SCARA Robot

This high speed and highly reliable SCARA robot is equipped with our latest soldering unit LYRA II to meet all your soldering needs.

User Friendly Teaching

This robot provides intuitive teaching for various soldering applications.
The latest PC software makes it easy to manage the application data.

LYRA Ⅱ +JS-3 Controller

Type		JS-330LYRA Ⅱ	JS-340LYRA Ⅱ	JS-350LYRA Ⅱ
Arm Length	Maximum(J1+J2)	350mm	450mm	550mm
	J1 axis	125mm	225mm	325mm
	J2 axis	225mm		
Operation Range	J1 axis	340 (±170) °		
	J2 axis	290 (±145) °		
	J3 axis	200mm		
	J4 axis	720 (±360) °		
Maximum Speed	Combined(J1+J2+J4)	6,900mm/sec.	7,600mm/sec.	8,300mm/sec.
	J3 axis	2,080mm/sec.		
	J4 axis	2,500°/sec.		
Portable Weight		Maximum 6kg (Rating 3kg)		
Repeatability*	Combined(J1+J2)	±0.010mm		±0.012mm
Weight of Robot		36kg		37kg
Control Method		PTP (Point to Point) / CP (Continuous Path)		
Interpolation		3-dimensional linear and arc interpolation		
Teaching Method		Remote Teaching (JOG), Manual Data Input (MDI), Direct Teaching		
Teaching Pattern		Direct teaching using optional Teaching Pendant II Offline teaching using optional JR C-Points II PC Software		
Program Capacity		999 programs		
Memory Capacity		32,000 point		
Simple PLC Function		1,000 Steps		
External Input / Output		LAN · I/O-SYS (15 Inputs / 14 Outputs) · I/O-S · COM1 · I/O-MT (Option) · Fieldbus (CC-Link · DeviceNet · PROFIBUS · PROFINET · CANopen · Ethernet/IP Option)		
Power Source		AC200～240V(Single Phase)		

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

Options

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

FW71RH

Pre-Heater

YPH-10

Micro Monitoring Camera

CSS-2100

High-Quality Portable Video Recorder

CVR-2100

Position Calibration Camera

SC+AⅡ

Tip Thermometer

TTM-140

JC-3 Series

3-axes / 4-axes Cartesian Robot

The multifunctional JC-3 Series Cartesian Robot comes complete with an easy-to-use dedicated controller and robot with a large selection of stroke lengths for each axis. Like our desktop robots, the JC-3 has convenient installation settings. Program teaching is fast and simple due to the intuitive design of the teaching pendant.

Flexible Program Capacity and Multifunctional "All-in-one"

With a capacity of 999 programs and 32,000 points, it affords high-mix, low-volume production. This open-frame robot design can accommodate virtually all sizes of in-line production soldering projects and applications.

JC-3-4A-LYRAⅡ (4 axes Iron Soldering Robot)

4 axes JC-3 robot + Soldering controller LYRAⅡ

JC-3-1A-SLV-D / JC-3-3A-SLV-D (1 axis / 3 axes Sleeve Soldering Robot)

1 axis JC-3 robot + Soldering Controller SLV-D

Options

ZSB Feeder

Air Blow Cleaners

CRB CRB-A2 Rudra*

*Rudra can only be used with the ARC-5000

Rotary Cleaners

SRC-500DC BRC-3000 SRC-3000

Fume Extractors

Bofa VAC-3000

VAC-4001A VAC-4002A

Nitrogen Generator (Standard equipment of CMS/SLV)

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+AⅡ

Tip Thermometer

TTM-140

Type		JC-3-1A	JC-3A-1A	JC-3A00-OT3 (One side holding)	JC-3A00-OH3 (Both-side holding)	JC-3A00-OH4 (Both-side holding)
Soldering Method		Sleeve		Laser / Sleeve	Laser / Sleeve	Iron
Number of Axes		1 Axis Control		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)	100		50/100/150/200	50/100/150/200	100/150
	R Axis(deg)	-		-	-	±360
Drive Method		Stepping Motor		Stepping Motor	Stepping Motor	Stepping Motor
Drive Motor	X Axis(mm)	-		Feedback Control	Feedback Control	Feedback Control
	Y Axis(mm)	-				
	Z Axis(mm)	Open Loop Control	Feedback Control			Open Loop Control
	R Axis(deg)	-		-	-	
Maximum Portable Load(kg)		3.5		4	8	3
Maximum Speed <PTP Movement> *1	X Axis(mm)	100		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)	600		400	400	400
	R Axis(deg/s)	-		-	-	900
R Axis Acceptable Moment of Inertia (kg/cm²)		-		-	-	90
Repeatability (mm) *2	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	±0.02	±0.01
	R Axis(deg)	-		-	-	±0.008
Control Method		PTP(Point to Point) Control		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)				

* 1 Maximum speed may be unreachable depending upon the tool attachment setup.
* 2 Repeatability measured at a constant temperature, so absolute precision is not guaranteed.

Product Lineup

1 axis

3 axes
One side holding

3 axes
Both-side holding

4 axes
Both-side holding

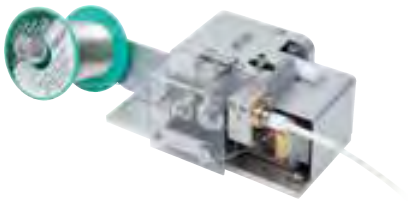
APOLLO SEIKO

OMEGA

Soldering Unit

The OMEGA system has been designed exclusively for automated soldering.
This soldering unit can be widely adapted for use in semi & fully automated systems, desktop robots, linear actuators and special purpose machines.

OMEGA is a new soldering unit compatible with MODBUS TCP/IP and Industry 4.0.
The improved temperature controller has an auto tuning function, and the new touch panel provides for simple and intuitive operation.



Type		OMEGA
Power Source		AC85~264V(Single Phase)
Power Consumption		375W
Air Supply		0.4~0.5MPa (Dry & Clean Air)
Solder Wire Diameter	Using ZSB Feeder	Φ0.4~1.0mm (Option: Φ0.3mm)
	Using Normal Feeder	Φ0.3~1.0mm
	Using Large Diameter Feeder	Φ1.2~2.0mm
Solder Condition		297 conditions Point:99/ Slide:99/ Special:99
Setting Temperature		1~500℃
Heater Capacity		200W (Max.)
Solder Step		9 Steps(Max.)
Wait Temperature		100℃
External Start Box		Optional
Dimensions (W×D×H)		110×200×280mm
Weight	Controller	3.8kg
	Feeder	1.3kg
	Iron Unit	0.8kg

Configuration

OMEGA - LSP + ☐ + ☐
or LCO + Iron Unit / Solder Diameter

L:Vertical
SP: Feeder and controller separate type
CO: Feeder and controller combined type

Components

OMEGA 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
Iron Cartridge

Options

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*

Pre-Heater

YPH-10

Micro Monitoring Camera

CSS-2100

High-Quality Portable Video Recorder

CVR-2100

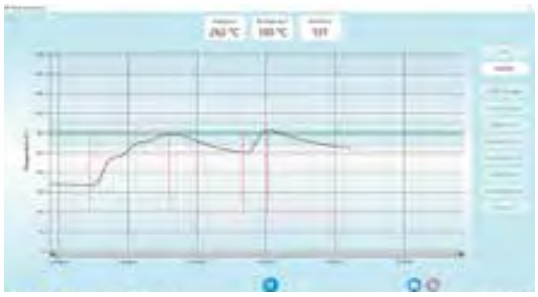
Tip Thermometer

TTM-140

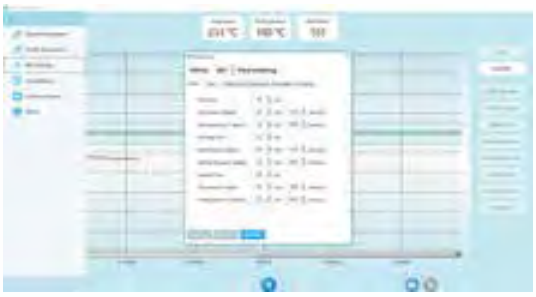
*Please execute signal control by customers.

OMEGA Manager

With the OMEGA manager it is possible to monitor and check the controller condition. It receives and sends a variety of process parameters such as temperature data, error occurrence,soldering condition, system parameters and more. Information such as the temperature data can be exported and saved as a CSV file, allowing for easier verification with the soldering condition and cycle time.



Main Display of PC Software



Solder Condition Acquisition Screen

RSP / RSL / LFD

Iron Unit for Point and Slide Soldering

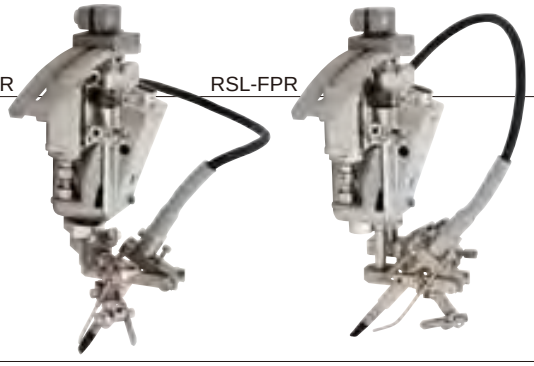
It takes 8 seconds to replace the iron cartridge and it does not require position adjustment upon iron cartridge replacement.
The solder feeding position can be precisely set by adjusting the set screw.

RSP

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-R /RSL-FPR*



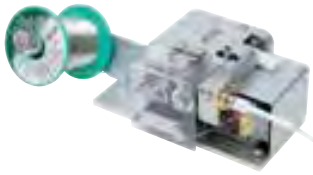
RSL-R RSL-FPR

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

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		Pulse motor
Solder Wire Diameter	Using ZSB Feeder	Φ0.4~1.0mm (Option: Φ0.3mm)
	Using Normal Feeder	Φ0.3~1.0mm
	Using Large Diameter Feeder	Φ1.2~2.0mm
Feed/Reverse Speed		0.1~50.0mm/sec.
Sensor		Clogged, Shortage
Weight		1.3kg



SR Series In-Line System / Off-Line System

In-Line System

The SR series has a highly dense, automated pogo-pin component support system. This eliminates the need for custom fixtures for each particular application.
The through-hole components simply get loaded onto the PCB & the system takes care of the support of the components & rotation of the PCB for automatic soldering with an Apollo JC-3 robot. The high-speed, flexible connection type conveyor can be easily configured to meet the requirements of the line & process flow.

SR-IST
Installing / Setting Machine

SR-SOR
Soldering Machine

SR-SPD
Separating / Ejecting Machine

Type	SR-IST	SR-SOR	SR-SPD
Power Source	AC200±10%　50/60Hz		
Power Consumption	1.5kW	1kW	1kW
Working Area	120×80～275×190㎜		
Dimensions(W×D×H)	1200×950×1700㎜	996×950×1700㎜	1200×950×1700㎜
Weight	300kg		

Off-Line System

SR-IAF

Off-Line Type Automatic Soldering Machine

This model has consolidated the functions of the in-line system into one machine which allows for a smaller footprint. This unit is designed for small lot, high-mix production.

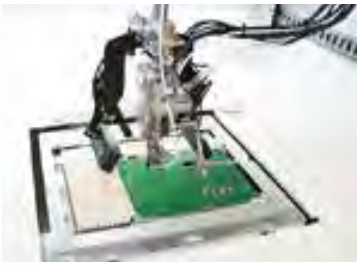
Type	SR-IAF
Power Source	AC200±10% 50/60Hz
Power Consumption	1.5kW
Working Area	120×80~275×190mm
Dimensions (W×D×H)	1000×950×1700mm
Weight	300kg

Standard Equipment

Multi Placement Jig

A highly dense array of pogo pins trace the shape of the thru-hole components, lock the pins into position to support the components. The entire assembly is then flipped 180 degrees for automatic, robotic soldering with the Apollo Seiko JC-3 solder robot. This eliminates making costly custom fixtures.

Image Recognition System



This system checks the lead shape / pattern before soldering. If there are any issues with the images, the system can be programmed select stop or skip a specific operation, thus preventing defective soldering.

Cyclone Type Iron Tip Cleaner "Rudra"

Vortex-like air flow generated inside the cleaner and residual solder on the iron tip is easily removed without any solder ball spattering.
There are no consumable parts and the unit is maintenance free. Iron tips of virtually any shape can be used.

Image Inspection Camera	Controller	Type	FH-L550
	Camera	Type	FZ-SPC
		Image Element	All pixel readout method, Interline transfer type, 1/3 inch CCD image element
		Pixels	300,000 pixels
		Shutter Function	Electronic shutter method
		Effective Pixels	640(H)×480(V)

J-CAT CMS

Desktop Metal Sleeve Soldering Robot

With a compact and lighter head and use of a cartridge heater, it is designed to be used in narrow spaces such as in high-density PCB layouts.
Due to its capability to provide a very constant solder feed amount, barrel fill and perfect back fillet soldering results are extremely consistent.

*Please refer to page 23 about the specification and options.

CMS-1AU

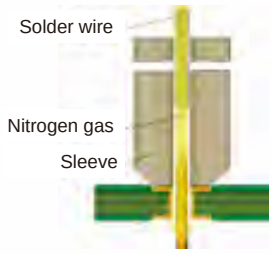
In-Line Type Metal Sleeve Soldering Robot

The 1 axis CMS robot was developed for dedicated and in-line process machines.
Thanks to its compact head, it allows a high degree of design freedom.

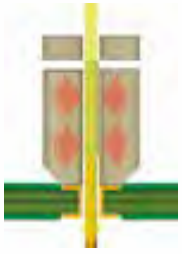
*Due to improvements to our products, specification may be changed without prior notice.

Constant Amount Sleeve Soldering

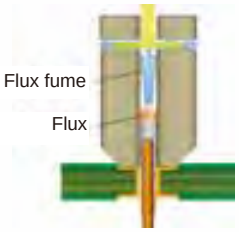
Sleeve Soldering Mechanism



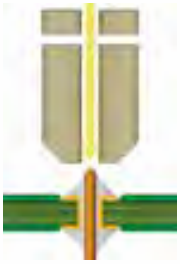
After pre-heating by the sleeve, the solder wire is cut and dropped into the solder joint area.
Solder length is measured by an encoder for precise feeding.



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.
Also, solder clogs do not occur.



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

Internal Structure of CMS Head

- **No Spattering of Flux and Solder Ball**
- **Standard Equipment of Nitrogen Generator**
- **Standard Equipment of Sleeve Position Correction Unit**

Touch Sensor & Buffer Lock

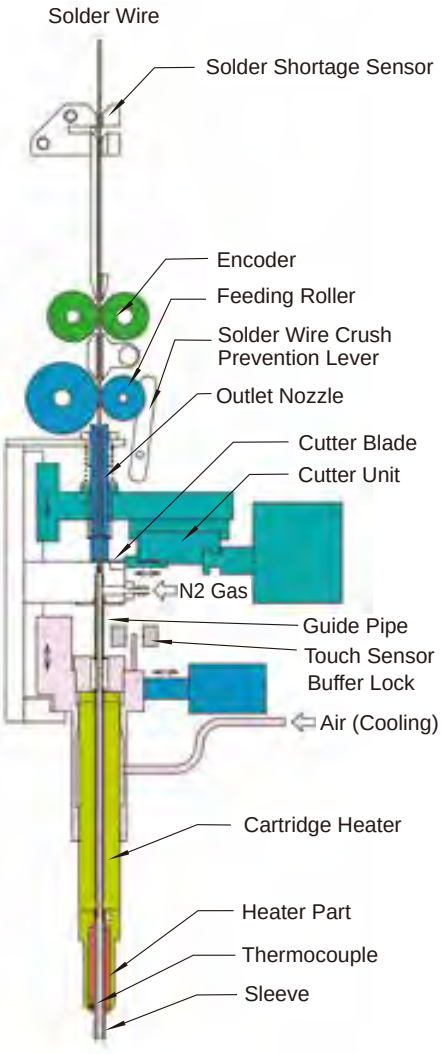
It adjusts according to the work size and height variation and always contacts the material with a constant pressure.

Metal Sleeve

Thanks to the use of a good metallic heat transmitter, the loss of heat during the soldering is reduced to the minimum possible.
Consequently, the recovery time is much faster.

Cartridge Heater

Utilizes slim-type cartridge heater. It is powerful and allows for fast heat up and thermal energy recovery during the solder process.



Solder Wire for CMS / SLV

This solder wire was developed exclusively for sleeve-type soldering robots. It has good wettability and prevents the formation of carbide. It contributes to a stable and clean spread of the solder and decreases the sleeve cleaning frequency.

Metal Sleeve

Use of a good metallic heat transmitter. It is customizable according to the work size and shape.

Type	J-CAT330CMS	J-CAT340CMS
Weight	Robot：35kg Head：2.5kg Attachment units (CMS controller,APN-05):5kg	Robot：42kg Head：2.5kg Attachment units (CMS controller,APN-05)：5kg
Operation Range	X,Y-axis：300×320mm Z-axis：100mm	X,Y-axis：400×400mm Z-axis：150mm
Portable Weight (X table stage)	15kg	
Repeatability	X,Y,Z ±0.007mm	
Program Capacity	999 programs	
Memory Capacity	32,000 points	
Soldering Conditions	500 conditions	
Setting Temperature	0~500℃ (1℃ increments)	
Solder Feedling Amount	2~10mm (0.1mm increments)	
Solder Feedling Speed	1.0~40.0mm/sec (0.1mm/sec increments)	
Usable Solder Diameter	Φ0.4~0.8mm	
Power Consumption	370W(Max.)	
Heater Capacity	200W	
Power Supply Voltage	AC94~260V (Single phase)	
Supply Air	0.5MPa	
Usage Environment	Temperature range：20℃~30℃ (This temperature is not keeping the yield rate of the product) Humidity range：less than 85% (Non-condensing) Indoor use only	
Storage Environment	1~60℃ (Non-condensing)	
Interface	For external operation command D-SUB37 female pin (Harness side: male)	

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

Option for CMS & SLV

Drill Cleaner

DRC-1400

Cleaning Heater

CCH-700

Micro Monitoring Camera

CSS-2100-S

High-Quality Portable Video Recorder

CVR-2100

Position Calibration Camera

SC+AII

Tip Thermometer

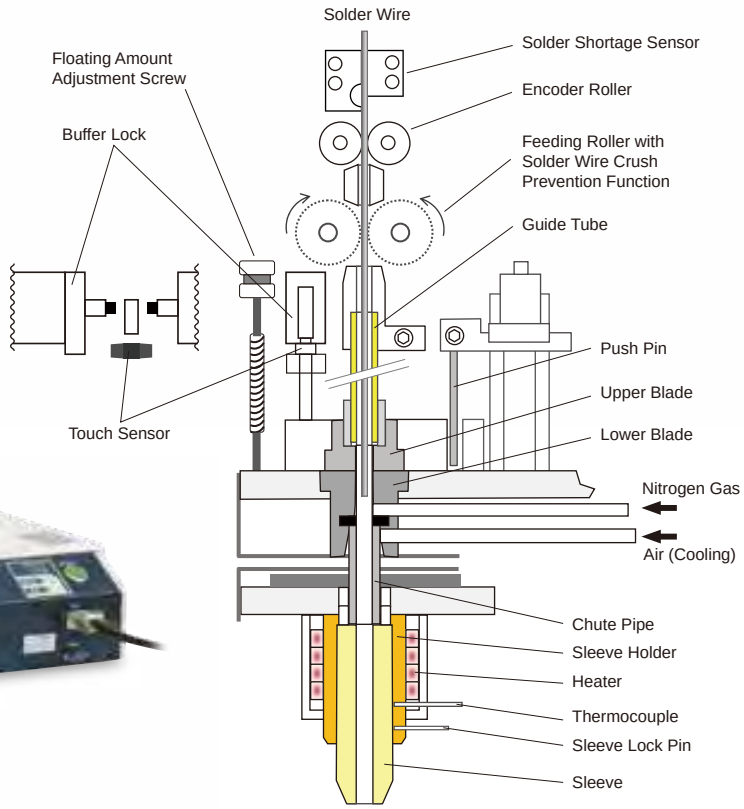
TTM-140

VAC-4001A / VAC-4002A

J-CAT SLV-D

Desktop Ceramic Sleeve Soldering Robot

Internal Structure of SLV Head



- Constant Solder Amount
- Standard Equipment of Nitrogen Generator
- No Spattering
- Easy Maintenance

Ceramic Sleeve

Solder Wire for CMS / SLV

Type	J-CAT330 SLV-D	J-CAT340 SLV-D
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	0~10.0mm (0.1mm increments)	
Solder Feeding Speed	1.0~40.0mm/sec. (0.1mm/sec. increments)	
Solder Wire Diameter	Φ0.8~1.2mm	
Power Consumption	370W(Max)	
Heater Power Consumption	135W	
Power Source	AC94~260V(Single Phase)	
Supply Air	0.5~0.6MPa (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

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

JC-3-1A-SLV-D

In-Line Type Ceramic Sleeve Soldering Robot

This robot consists of SLV and JC-3 (Page 15).

J-CAT MLU

Desktop Laser Soldering Robot

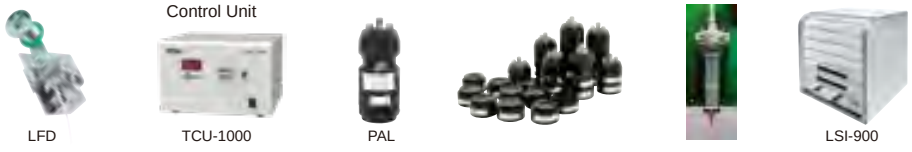
This robot is non-contact soldering that heats up the target with a high energy light emitted from an oscillated laser diode and is focused with a lens.

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

(808nm:MLU-808FS
980nm:MLU-980FS)

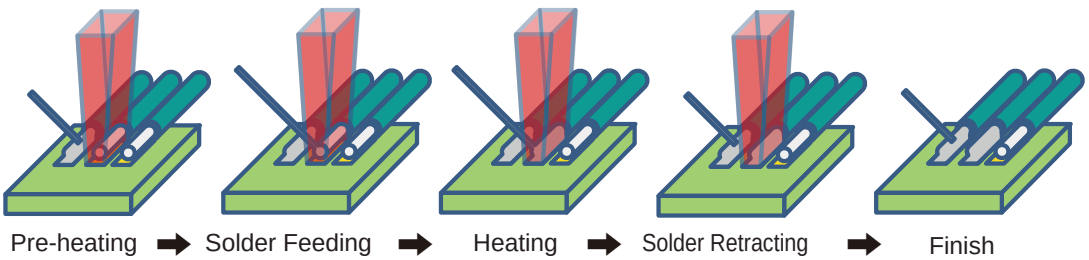
J-CAT330 MLU-808FS + LFD + TCU-1000

Options



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.



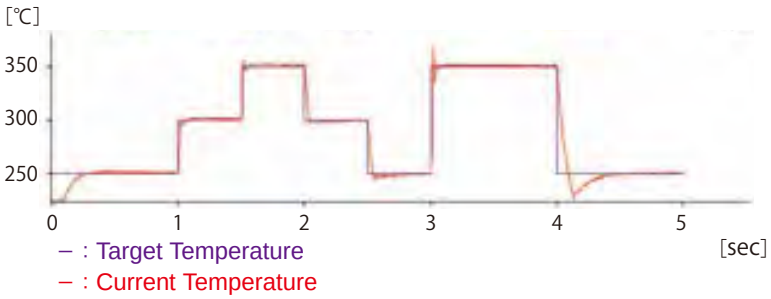
STAR GATE

New Laser Soldering Unit

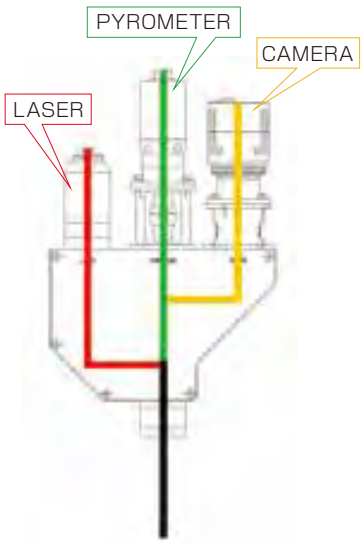
- Controls the laser power according to the soldering temperature
- The laser light beam and the infrared pyrometer radiation is delivered from a coaxial laser head
- 80W high-power semiconductor laser
- A minimum fiber size of 105μm
- Can select between two types of wave: an 808nm infrared wave or a 450nm blue wave

In conventional laser soldering, all the laser power is used as a base to set the required temperature. However, the type of material and components around the soldering item may cause a variation in the temperature.
In other words, even setting and irradiating the same laser power, in the end, the soldering temperature may change. Thus causing unexpected results such as overheating or insufficient heating of the solder and consequently, damaging the product.
STAR GATE was developed to fulfill this deficiency. In this new design we have coupled the infrared pyrometer and laser beam into the coaxial laser head providing real-time control of the process solder temperature. With this new design the temperature fluctuation caused by part and component variation is eliminated thus making it possible to send a constant and precisely controlled temperature to the point of soldering.

【Temperature Setting Waveform】

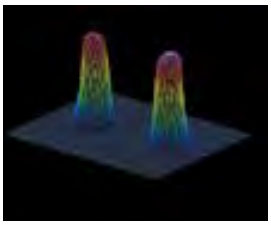


【Perfect Coaxial】



Twin Beam Function

This special optical system splits one laser beam into two.
The split beam easily mounts to the conventional laser head.



The electrodes of the right and left side are heated by laser at the same time. It prevents the flotation, inclination and the Manhattan phenomenon of the tip part and allows stable soldering. It can solder a pair of soldering points at the same time which shortens the cycle time.

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	STAR GATE	STAR GATE BLUE
Material		Semiconductor Laser			
Oscillation		Continuous Wave			
Wavelength		808nm	980nm	808nm / 925nm / 980nm	450nm
LD Output / Fiber Core Diameter		【50W】200μm or 400μm 【100W】200μm or 400μm 【35W】105μm *Option		【808nm(50W)】105μm 【808nm(80W)】200μm 【925nm(80W)】105μm or 200μm 【980nm(80W)】105μm or 200μm	【20W】105μm or 200μm 【50W】105μm or 200μm
Guide Beam		650nm（±10nm）			520nm（±15nm）
Halation Prevention		Available			
LD Cooling System		Electric Cooling			
Coaxial Camera Monitoring Function		Available			
Coaxial Pyrometer Function		Not Available		Available	
Fiber Length		3m or 5m		3m (5m: Option)	
Focused Beam Diameter		Φ67～4000μm Φ133～8000μm		Φ35～2100μm Φ67～4000μm	
Temperature Control	Upper Limit Type	Available (When TCU-1000 (option) is used)		Not Available	
	Perfect Temperature Waveform Type	Not Available		Available (Internal Integrated Type)	
Pyrometer	Pyrometer Position	Arranged externally with another axis different from the laser beam (When TCU-1000 (option) is used)		Arranged coaxially with the laser beam	
	Measurement Size	Minimum:Φ250μm (When TCU-1000 (option) is used)		Minimum: Φ100μm	
	Measurement Temperature Range	140～900℃ (When TCU-1000 (option) is used)		140～700℃	
	Response Speed	0.001sec (When TCU-1000 (option) is used)		0.0001sec	
Registered Waveform Capacity		16		32	
External Interface		RS232C or LAN + GPIO		RS232C or LAN + GPIO	
Dimensions（W×D×H）		【Laser Head】 104×192×63mm (Expect projection) 【Laser Oscillation Unit】 270×260×230mm（35W/50W） 430×360×230mm（100W） 【Laser Controller】 430×350×149mm（35W/50W） 430×380×149mm（100W）		【Perfect Coaxial Laser Head】 185×315×60mm(Expect projection) 【Laser Oscillation Controller】 448×504×132mm (IR 50W / IR 80W / BLUE 20W) 448×584×175mm (BLUE 50W)	
Weight		【Laser Head】 Approx. 1kg 【Laser Oscillation Unit】 Approx. 6.5kg (35W/50W) Approx. 21kg (100W) 【Laser Controller】 Approx. 16kg (35W/50W) Approx. 17.5kg (100W)		【Perfect Coaxial Laser Head】 Approx. 1.9kg 【Laser Oscillation Controller】 Approx. 15kg	
Power		AC100V (Single Phase) 50~60Hz AC200V (Single Phase) 50~60Hz AC220V (Single Phase) 50~60Hz *Select one type		【IR 50W / IR 80W / BLUE 20W】 AC90~250V ± 10% (Single Phase) 【BLUE 50W】 AC100V / AC200V Switching System	
Power Consumption		【35W / 50W】1.1kVA or less 【100W】 1.4kVA or less		1.0kVA or less	

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

AF Series

The new economical AF Series has the same main functions as our F-CAT series. These new selective flow systems include an option for QR/ Barcode reading or MES data storage.

AF iN4050 Z3
In-Line Selective Flow System

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

Model	Power Consumption	Power Source	N2 Requirement	Working Area (X×Y)	Dimensions (W×D×H)	
					Flux & Preheater	Solder
AF iN4050 Z3	25kW	AC200~240V 50/60Hz 3Phase	0.2~0.4MPa 99.99% 50ℓ/min	500×400mm	2000×1640×1527mm	1300×1640×1527mm
AF iN2535 Z3	25kW			350×250mm	1850×1490×1527mm	1150×1490×1527mm

AF iN4050A
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	Power Source	N2 Requirement	Working Area (X×Y)	Dimensions (W×D×H)
AF iN4050A	11kW	AC200~240V 50/60Hz 3Phase	0.2~0.4MPa 99.99% 50ℓ/min	500×400mm	1300×1640×1527mm
AF iN2535A	11kW			350×250mm	1150×1490×1527mm

AF 4050A
Off-Line, All-in-one Selective Flow System

This model is an all-in-one machine for off-line production. It is equipped with all the automatic nozzle cleaner, automatic solder feeder, and position calibration camera etc.

Model	Power Consumption	Power Source	N2 Requirement	Working Area (X×Y)	Dimensions (W×D×H)
AF 4050A	11kW	AC200~240V 50/60Hz 3Phase	0.2~0.4MPa 99.99% 50ℓ/min	500×400mm	1200×1930×1527mm
AF 2535A	11kW			350×250mm	1050×1780×1527mm

Nozzle Type

You can select the nozzle that meets your application needs.

Standard Type (Circle)

Customization Type (Example)

Software and Monitor Screen

The monitor screen displays all the necessary information needed to program and run the machine. The Teaching can be performed by a PC.

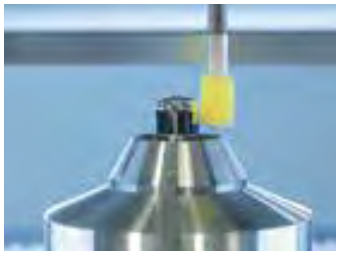
AF Series Function List

Model	AF iN4050 Z3 AF iN2535 Z3	AF iN4050A AF iN2535A	AF 4050A AF 2535A
Nozzle Size	Φ4~20	Φ4~20	Φ4~20
Solder Bath	6.5kg	6.5kg	6.5kg
Monitoring Camera	○	○	○
Solder Feeder	○	○	○
Dot Fluxer	○	○	○
Camera Scan Teaching	○	○	○
Nozzle Cleaner	○	○	○
Position Calibration Camera	○	○	○
Flow Height Control	○	○	○
Flow Temperature Control	○	○	○
Pre- Heating	Top 3ch / Bottom 3ch	Top 3ch	Top 3ch
QR / Barcode Reader (Option)	△	△	△
MES Data Storage (Option)	△	△	△

* AF iN4050A
  - iN: In-Line
  - A: All-in-one

Utility – Machine with various convenience functions

Automatic Nozzle Cleaner



The nozzles can now be cleaned automatically which improves safety and ease of maintenance.

Automatic Solder Feeder

Solder wire is used instead of bar solder and is automatically fed into the solder pot which is easier and safer.

Camera Scan Teaching

The AF series application is directly scanned so teaching can be performed.

Flow Height Control

This touch probe 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.

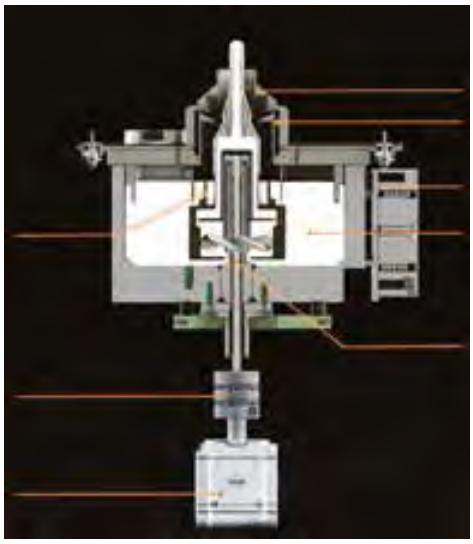
N2 Heater

The unit heats the nitrogen coming into the solder pot and controls the nitrogen temperature.

AF series Features

Solder Bath

Utilizing a small tank of 6.5kg reduces the machine starting time and suppresses the dross formation. The impeller rotation is connected directly to motor. As a result, this system prevents the belt and chain traction from stretching or skidding and provides a stable rotation. Also, the automatic nozzle cleaner and automatic flow high sensor function allow a controlled and smooth solder flow.



Micro Jet Flux

5 dot size levels are available. The application cycle range is from 10~100ms allowing the selection of the most suitable flux quantity for each work.

Standard Nozzle

Option Nozzle

Remote Control Function

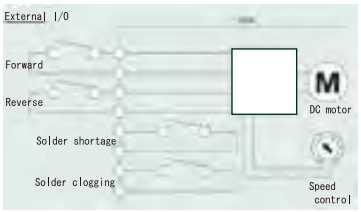
Capability to be controlled remotely by connecting to the internet. The remote control and internet connection allows the selective soldering system to set up, teach, perform software updates and inform if some trouble occurs.

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 Wire 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 TTM-3000N is ideal for lead free soldering due to the extremely fast heat up, temperature recovery and the ability to integrate N2 gas.
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
Dimensions (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

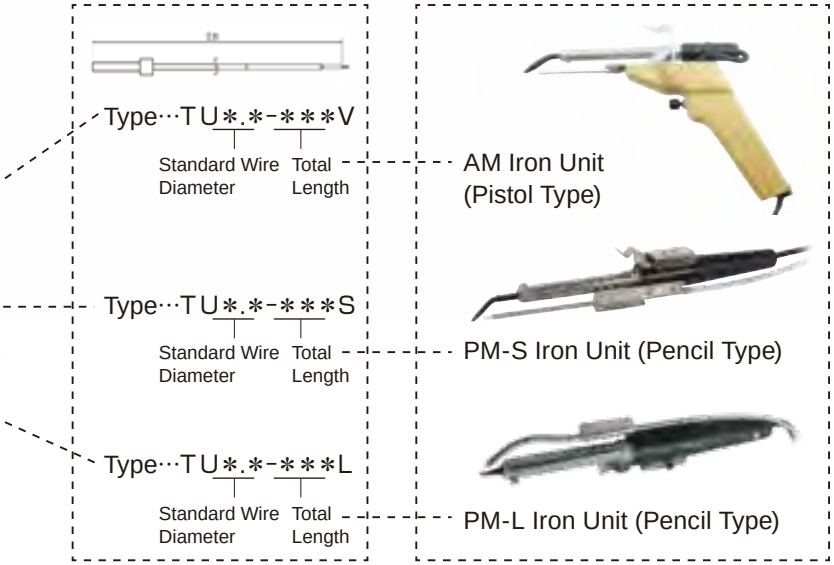
Lead Free Manual Soldering Station

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		AC100V, 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

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.



SSB Main Unit

SSB Set Type : SSB－①－②－③－④－⑤

Type Example : SSB-AM-1.6-60-450-6CL

Type	① Iron Unit	② Solder Diameter(mm)	③ Heater(W)	④ Total Length(mm)	⑤ Iron Tip
SSB	AM	0.4～2.0	60	100～3000	6∗∗
	PM-S		100		8∗∗
	PM-L		150		10∗∗

* Pencil types (PM-S, PM-L) are compatible with 60W heater only.

SSB main unit, feed tube, iron cartridge and iron unit can be ordered separately.
Please refer to the page of solder feed tube (page 54) and iron cartridge (page 37).

Type	SSB
Power	AC100V 50/60Hz
Using Motor	DC motor 5 Watt
Thermostat	Vari-tap type
Solder Wire 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	Main Unit, Power Cable
Options	Iron Unit (with Solder Wire Feeding Tube), Iron Tip, Iron Unit Stand (AK-1), Foot Switch (can be connected)

	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-8000

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.

Iron Unit

AM-8000
(Pistol Type)

PM-8000
(Pencil Type)

Type：SZB-8000-＊＊-＊＊

Iron Unit Type (AM / PM)　Solder Diameter

Option

Iron Unit Stand
AK-1 (for PM Iron Unit)

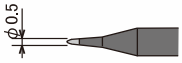
Iron Unit Stand
AK-2 (for AM Iron Unit)

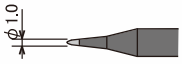
Type	SZB-8000
Solder Wire Diameter	Φ0.4~1.6mm
Power Supply	AC100~240V (Single Phase)
Power Consumption	195VA
Setting Temperature	0~500℃
Temperature Setting	PID control
Usable Iron Cartridge	DS type (130W Heater)
Solder Feed	1 Pulse timer / Continuous
Solder Feed Speed	0~40mm/sec.
Dimensions (WxDxH)	100×338×174mm
Weight	2.7kg (Main Unit)
Constitution	Main Unit, Iron Unit, Feeding Tube, Power Cable, Tip removable Pad, Fuse 2A, Iron cartridge

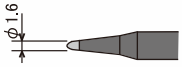
These specifications may be changed for improvement withoutprior notice.

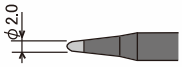
Iron Cartridge

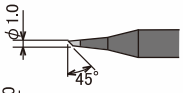
TTM-3000N

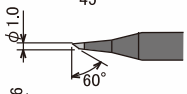
DS/DN-05BAA-E25 

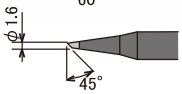
DS/DN-10BAA-E25 

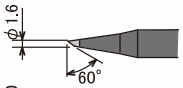
DS/DN-16BAA-E40 

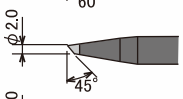
DS/DN-20BAA-E40 

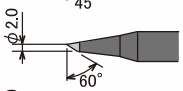
DS/DN-10FAA45-E40 

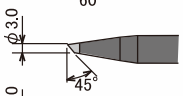
DS/DN-10FAA60-E40 

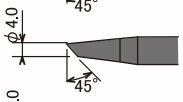
DS/DN-16FAA45-E40 

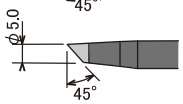
DS/DN-16FAA60-E40 

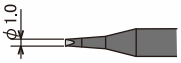
DS/DN-20FAA45-E40 

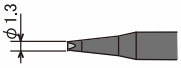
DS/DN-20FAA60-E40 

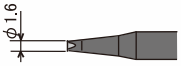
DS/DN-30FAA45-E50 

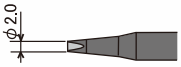
DS/DN-40FAA45-E50 

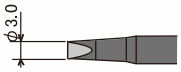
DS/DN-50FAA45-E50 

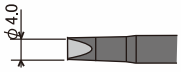
DS/DN-10PAD03-E08 

DS/DN-13PAD05-E15 

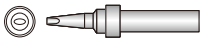
DS/DN-16PAD06-E15 

DS/DN-20PAD07-E15 

DS/DN-30PAD10-E30 

DS/DN-40PAD10-E30 

TTM-1000H

200-1.2D 

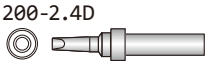
200-2B 

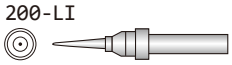
200-3C 

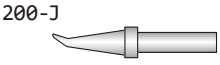
200-1.6D 

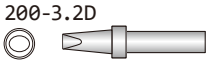
200-I 

200-4C 

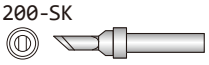
200-2.4D 

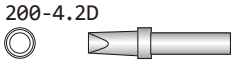
200-LI 

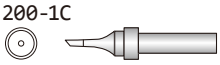
200-J 

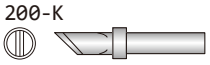
200-3.2D 

200-0.8C 

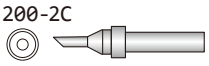
200-SK 

200-4.2D 

200-1C 

200-K 

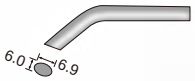
200-B 

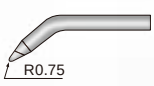
200-2C 

200-H 

SSB

For 60W(C-60-6)

AS-6CL 

AS-6BL 

AS-6D 

AS-6BCL

AS-6DL

AS-6QL

AS-6BC

For 100W(SA-100W)

AS-8BL

AS-8BC

AS-8CL

AS-8BCL

AS-8DL

For 150W(SA-150W)

AS-10B

AS-10D

AS-10BL

AS-10DL

AS-10CL

AS-10BCL

AM iron unit (pistol type) for SSB is compatible with 60W, 100W or 150W heater, and PM iron unit (pencil type) is compatible with 60W heater.
Please select an iron cartridge conforming to the specification.

ZSB-10

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
Solder Wire Diameter	0.4~1.0mm
Weight	1.5kg
Dimensions (WxDxH)	190×85×80mm
Power consumption	45VA
Power	AC100~240V (Single Phase)
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

HASL-130

Peripheral Equipment

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 excellent response and a very stable high-performance temperature controller. The mass flow controller can regulate accurate air (nitrogen) flow.
It is also possible to use as a pre-heater prior to soldering.

Cartridge Unit

Combination Example with a Robot

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

Control Unit

J-CAT SCD

Screw Tightening Desktop Robot

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

Type	J-CAT320SCD	J-CAT330SCD	J-CAT340SCD
Move Area	X=200mm Y=200mm Z=50mm	X=300mm Y=320mm Z=100mm	X=400mm Y=400mm Z=150mm
Dimensions (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.	
*1 Z Axis	250mm/sec.	400mm/sec.	
Resolution(X,Y,Z Axis) *2	±0.006mm	±0.007mm	
External I/O	I/0-SYS Input 16, Output 16		
Teaching Method	Remote Teaching (JOG) / Manual Data Input (MDI)		
Available Screw	M1.0 ~ 8.0 mm		
Output Torque	0.03 ~ 5.55 Nm		
Power Source	AC90~250V (Single Phase)		

*1 Maximum speed cannot be achieved when the robot is bearing its maximum portable load.
*2 Position repeatability is not a guarantee of absolute precision.

L-CAT CMC

Conformal Coating Robot

The effective solution for selective conformal coating based on 4-axis robot. The SV-70 has a square nozzle and offers high-speed, consistent thin-film coating without spattering, overspraying, mist or bubbles.

Type		L-CAT CMC700
Working Distance	L-CAT 4330CMC	X=300mm Y=300mm Z=60mm, R=340°
	L-CAT 4430CMC	X=400mm Y=300mm Z=60mm, R=340°
	L-CAT 4540CMC	X=500mm Y=400mm Z=60mm, R=340°
Valve Dimensions		Φ26.9（Liquid chamber part）×141.0mm
Valve Weight		334g
Liquid Supply Port		1/8NPT (female screw)
Mounting Hole		M6
Air pressure for valve drive		0.4～0.61MPa (Dry & clean air)
Dispensing Time Adjustment Range		0.005～99.9sec.
Application Nozzle		※Special nozzle #9（18mm）、#6（11mm）、#4（8mm）
Controller Power Source		DC24V（AC100～240V AC with AC adaptor）

SV70 Valve

ZSB

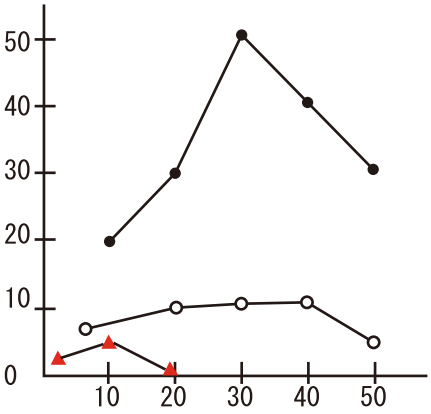
The built-in roulette cutting blade makes evenly spaced holes while precisely feeding solder wire. During soldering, flux is released evenly through these holes. This provides consistent flux coverage without spattering and allows solder to melt on a clean, active surface.

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

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)

Rudra

Rudra
Cyclone type iron tip cleaner
* Rudra can only be used with the ARC-5000

Rotary Iron Tip Cleaner

SRC-3000

The wet sponges rotate in one direction to 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 brushes rotate to 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.

Type	APN-05
Nitrogen Gas Flow	0.3~0.6L/min
Nitrogen Gas Con	99% (When nitrogen gas flow 0.5L/min)
Air supply	0.5~0.6MPa (Only dry & clean Air)
Power Supply	AC100~240V less than 1.4W
Dimensions (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
Dimensions (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
Dimensions (W×D×H)	1,260×420×1,218mm
Weight	Approx. 500kg
Noise Value	65dB

NCM-02

N2/O2 Concentration Measuring Instrument

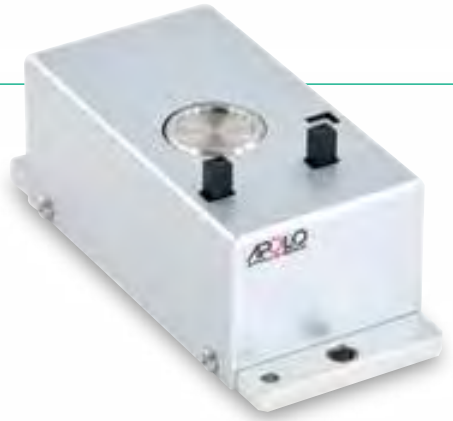
It can measure N2 concentration up to: 99.9%,
O2 concentration: 25%.
The level of N2 gas generation is measured precisely.

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/JC-3 robot) FW71RH (For JS-3 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	DC12~24 V
Weight	Approx. 0.8kg
Accessories	I/O SYS Cable. Attaching Plate

TTM-140

Tip Thermometer

This 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 × 4 pcs. : 6V
Dimensions (W×D×H)	83×140×42mm
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

Options

TTM-140SP
Sensor Probe
for Solder Pot

TTM-140+SU-S1
Iron Tip Thermometer

SC+AⅡ

Soldering Application Position Calibration System

This position calibration camera has been designed exclusively for use with our soldering robots.

Type	SC+AⅡ
Mountable Robot	J-CAT/ JC-3/ JS-3 Series/ L-CAT EVO-Ⅱ
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, LAN cable

CSS-2100

Small Soldering Camera Monitor

This micro camera easily attaches 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.)	Approx. 20mm
Min.Vision Area	Approx. 5mm(D) x 40mm(D)
Focus Distance(Max.)	Approx. 100mm
Max.Vision Area	Approx. 30mm(D) x 40mm(D)
Ambient Environment	-10℃~45℃, 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 four types of Fume Extractor systems.

VAC-1000 / 3000

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

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

EFA-1300

This is a desktop type portable fan. Its compact design allows for greater portability.

Type	EFA-1300
Power source	AC110/220V
Dimensions (W×D×H)	130×130×10mm
Weight	1.5kg

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
Dimensions (W×D×H)	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
Dimensions (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
Dimensions (W×D×H)	455×480×720mm
Power	AC230V +/- 10%, 120V +/- 10%

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 Wire Diameter	Φ1.0~1.6mm (Φ0.8 optional)
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-1400 For CMS/SLV

Drill Cleaner

The rotating drill bit removes the dross inside the sleeve.

Type	DRC-1400
Dimensions (W×D×H)	77×144×54mm
Rotation Speed	Approx. 420rpm
Power Source	DC24V (30mA)
Drill Diameter	Φ1.1 / Φ1.3 / Φ1.5 (Select one)
Weight	Approx. 0.8kg
Accessories	Drill bit 1 piece

CCH-700 For CMS/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	Sn96.5 Ag3.0 Cu0.5 Sn99.0 Ag0.3 Cu0.7	4.0% / 6.0%	Very Few Spattering
C119	Sn96.5 Ag3.0 Cu0.5 Sn99.0 Ag0.3 Cu0.7	4.0%	Good wettability
C210	Sn96.5 Ag3.0 Cu0.5	4.0%	For stainless part
C220	Sn96.3 Ag3.5 Ni0.2	3.0%	For aluminum part
C231	Sn96.5 Ag3.0 Cu0.5	3.0%	For CMS/SLV
C241	Sn96.5 Ag3.0 Cu0.5	4.0%	Halogen Free

*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.

Consumable Items

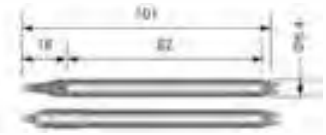
Iron Cartridge

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

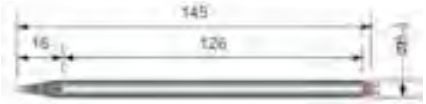
DS: DC48V: Total length 101mm　DM: DC48V: Total length 145mm
TS: AC100V: Total length 101mm　TM: AC100V: Total length 145mm
DN: DC48V: Total length 101mm with nitrogen sleeve

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

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



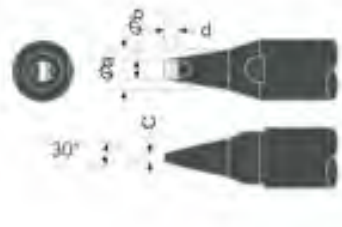
TM/DM (Old Type : TM/DCM)
Cartridge



PAD/PDS

Type	a (mm) 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 (mm) 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 (mm) 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 (mm) 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

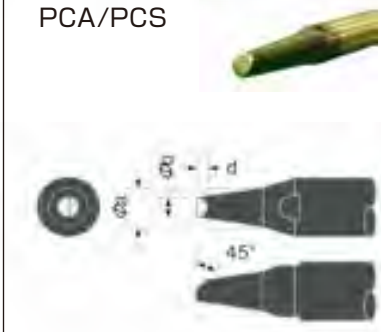
GDV

Type	a (mm) 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	$5.0^{V_{150°}}$

GAV

Type	a (mm) 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 (mm) 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	—	—

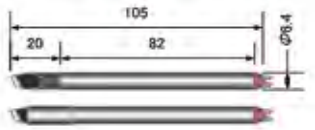
PCZ

Type	a (mm) 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	—	—

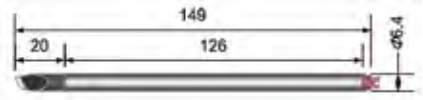
Iron Cartridge

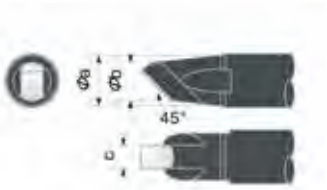
Slide Soldering Iron Cartridge

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



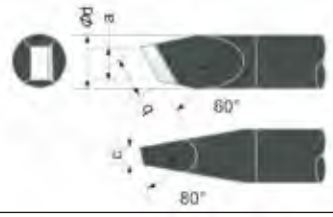
TM/DM (Old Type : TM/DCM)
Cartridge





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	—

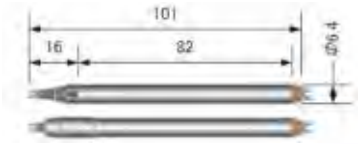


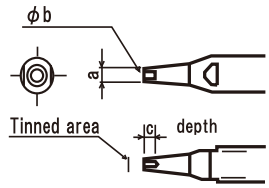
RDD

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

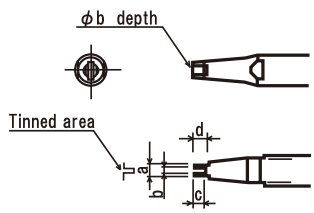
TS/DS/DN
(Old Type : TS/DCS/DCN)
Cartridge





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	—



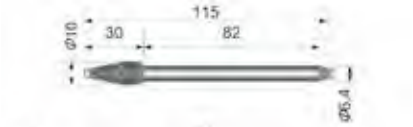
PSW

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	—

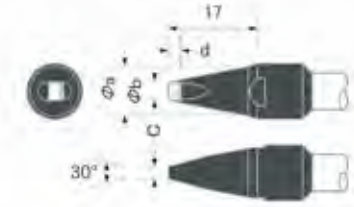
Consumable Items

Heat Storage Type Iron Cartridge

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

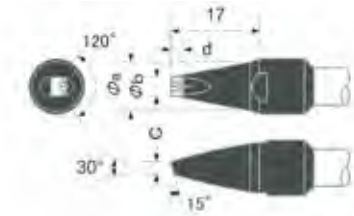


MB/DB (Old Type : TMB/DCNB)
Cartridge



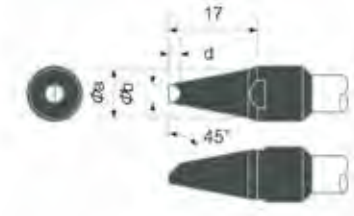
PAD

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



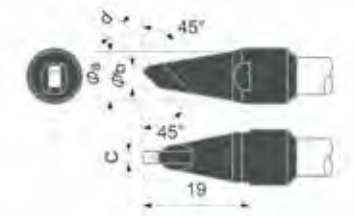
GDV

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



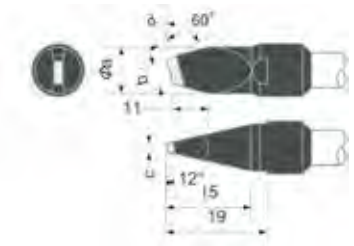
PCA

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

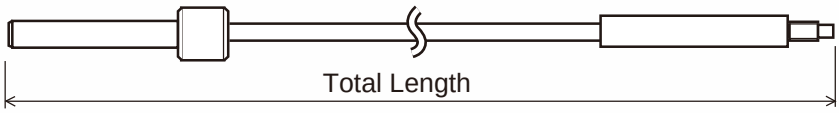
The patented design of the one-touch quick-change DX iron is easy to change and there is no position variation after tip replacement.

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.

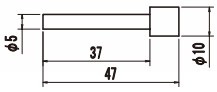
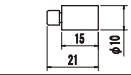
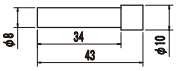
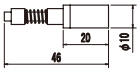


Configuration: TAL | 1.0 | — | 650 | S60

Solder Wire Diameter

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

Tube Type

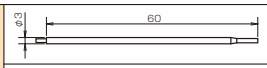
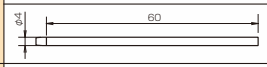
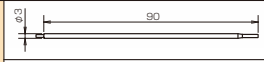
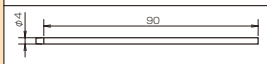
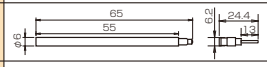
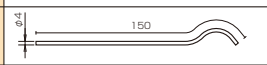
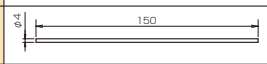
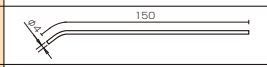
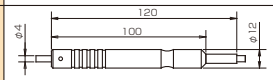
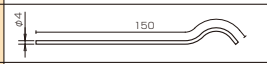
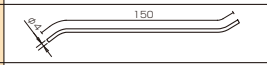
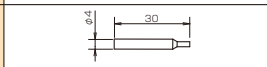
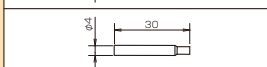
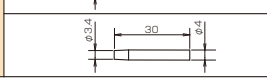
TAL		L-CAT EVO-Ⅱ L-CAT NEO-N J-CAT Series JS-3 / SR Series OMEGA TERRA LUNA YPH-10 SZB-8000
TR		SSA
TU		SSB
TZB		ZSB-10 SZB-7000

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-3/SR SCARA Series	650~1,000mm	
OMEGA / TERRA / LUNA	1,500mm	
SSA / SSB / SZB-7000 / SZB-8000	1,500mm	
ZSB-10	700mm	

Nozzle Type

S60		For Point Soldering, SSA, ZSB-10 (Solder Wire Diameter Φ0.3-1.2mm)
		For Point Soldering, SSA, ZSB-10 (Solder Wire Diameter Φ1.4 - 2.0mm)
S90		For Slide Soldering, SSA, ZSB-10 (Solder Wire Diameter Φ0.3 - 1.2mm)
		For Slide Soldering, SSA, ZSB-10 (Solder Wire Diameter Φ1.4 - 2.0mm)
N55		Needle Type*
Y	No nozzle	For YPH-10
L		For SSB PM-L Iron Unit (Pencil)
S		For SSB PM-S Iron Unit (Pencil)
V		For SSB AM Iron Unit (Pistol)
H120		For ZSB-10
S150-L		For SZB-7000 PM Iron Unit (Pencil) For SZB-8000 PM Iron Unit (Pencil)
S150-R		For SZB-7000 AM Iron Unit (Pistol)
Z30		For SZB-8000 AM Iron Unit (Pistol) (Solder diameter: Φ0.4~0.65mm)
		For SZB-8000 AM Iron Unit (Pistol) (Solder diameter: Φ0.8~1.2mm)
		For SZB-8000 AM Iron Unit (Pistol) (Solder diameter: Φ1.6mm)

*N55 Needle Size: N55-N＊.＊

Solder Wire Diameter

KTU Feeding Tube Set

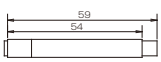
Type：TAL＊.＊-＊＊＊KTU

Solder Wire Diameter　Total Length

Spare Parts

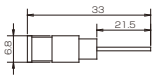
TAL＊.＊-＊＊＊（Tube）

KTU-HOL（Needle Holder）



KTU-N＊.＊（Needle）

Solder Wire Diameter



Consumable Items

Apollo Seiko Ltd.

Registered Date : October 1,1969

ISO 14001 Certificated

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