



Dip Tester DS-02



Features

- Wide range of data can be obtained at one operation : preheat temperature, solder temperature, wetting time.
- Digital Display with a liquid crystal.
- Memory of data is retained until the power is turn off

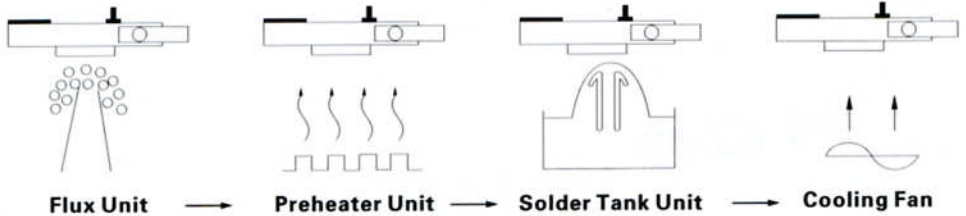
General Specifications

- Automatic cooling point compensation with semiconductor

Specification

Item	Sensor	Display	Measuring Rg
Preheat Temperature	CA Thermocouple	LCD Digital 3digits	50 - 200°C
Solder Temperature	CA Thermocouple	LCD Digital 3digits	0 - 300°C
Dip Time	Electrode	LCD Digital 3digits	0 - 10.0 Sec
Dimensions	95 (W) x 200 (L) x 65 (H)mm		
Weight			

Order Code : DS-02



Dip Tester DS-03

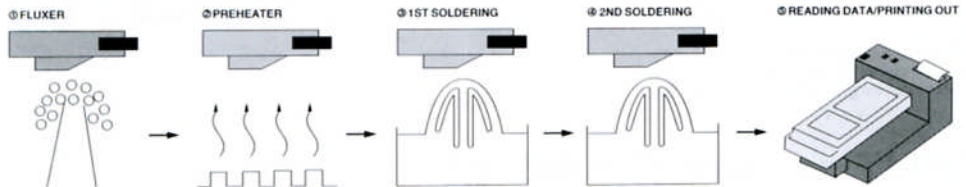


Features

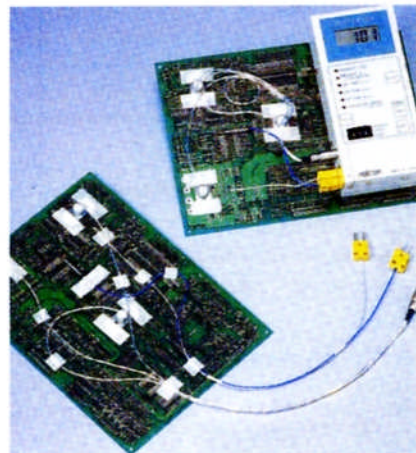
- For Dual-Tank Type Soldering Systems
- Attained vital soldering information with just one device
- Automatic cold contact point compensation with platinum temp. measuring resistor

Item	Sensor	Measuring Rg	Accuracy / Contents
Soldering Temperature	CA Sheath Thermocouple	0 - 300°C	±2°C
Temperature on the Underside of Board	CA Thermocouple	50 - 300°C	±2°C
Dip Time	Electrode	0 - 10.0 Sec	±2°C
Flux Dryness	Electrode (Resistance)	10KΩ to 5MΩ	20 Electrode Intervals of 4mm
Flux Height	Electrode	With Reference to underside of board 0 to 6mm	Scale Resolution 1mm
Solder Height	Electrode		
Dimensions	94mm x 230mm x 51mm		

Order Code : DS-03



Dip Tester DS-05



Order Code : DS-05

Special Features

Dip Tester DS-05 is a special tester for obtaining stableness of fine accuracy uniformity on an auto soldering machine. The previous tester measure only point for the preheat temperature and dip time. However, this tester could measure two (2) points for preheat and three (3) points for dip time, so the measuring reliability is improved. Also, it became possible to move each sensor to position desired, and to measure conveyor speed (possible to measure soldering temperature if you change preheat temperature sensor to soldering temperature sensor <option>

Measuring Items

- Circuit Board temperature at preheat (preheat temperature)
- Dip Time (3 points)
- Conveyor Speed

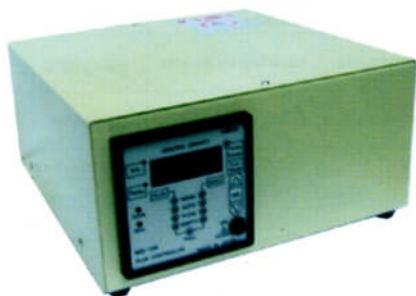
System Components

- Main Unit • Sensor Plate • Preheat Sensor (with Bracket) • Dip Time Sensor 1" • Solder Temperature Sensor (Option)

Specifications

Item	Sensor	Display Method	Measuring Rg	Accuracy / Contents
Soldering Temperature	CA Sheath Thermocouple	Digital LCD 3-digit	0 - 300°C	±2°C
Temperature on the Underside of Board	CA Thermocouple		50 - 300°C	±2°C
Dip Time	Electrode		0 - 10.0 Sec	±0.2 Sec

Flux Controller MS-109C



Order Code : MS-109C

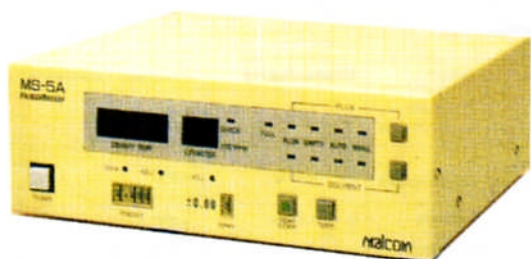
Specification

Specific Gravity Range	0.8-1.0
Span	± 0.003 – 0.009
Specific Gravity Accuracy	± 0.002
Liquid Temperature Measurement Range	10 – 50°C ± 1°C
Specific Gravity Control	Thermal Compensation (rate converted at 20°C)
Flux Level Control	Level Control by 10mm between upper and lower probe
Liquid Supply	Automatic Pumping System (1m 500ml/minimum)
Liquid Exhaustion Alarm	Alarm (Buzzer); Relay Contact 120V 0.5A (DC28V 1A)
Materials of Liquid-Contact Part	PVC, SUS, Viton, PP, PE, PA, EPT, Flourocarbon, Polyurethane
Power Supply	100, 115, 200, 220 or 240VAC
Fuse	100v→ 2A / 200V→1A

Features

- Can control flux density easily and accurately
- Installed a minimum of necessary functions to control flux density
- Compact size and easy to install to soldering devices

Flux Controller MS-5C



Order Code : MS-5C

Specification

Model	MS-5C	MS-5C S.S
Specific Gravity Range	0.8000 – 0.9000	0.800 – 0.900, 0.900 – 1.000 (Changeable on request)
Resolution	0.001	
Specific Gravity Accuracy	± 0.002	
Specific Gravity Control	Thermal Compensation	
Life Meter	Flux Contamination Rate (Digital Display indicated by PPM 0 – 500PPM)	
Flux Level Control	Level Control by 1cm between upper and lower level probes	
Solvent Exhaustion	Automatic indication by lamp, alarm and relay contact	
Pump Capacity	500ml per minute	
Power Supply	100VAC, 115VAC, 200VAC, 220VAC, 240VAC (Selectable on request)	
Dimension (W x H x D)	Controller : 290 x 108 x 260mm Pump Unit : 290 x 120 x 260mm	

Features

- Fully automatic measurement and control of specific gravity and liquid level
- Digital Display shows specific gravity, temperature and liquid contamination rate
- Built-in temperature compensation circuit
- Empty alarm and output for relay contact
- Two selectable specific gravity ranges (MS-5C S.S only)

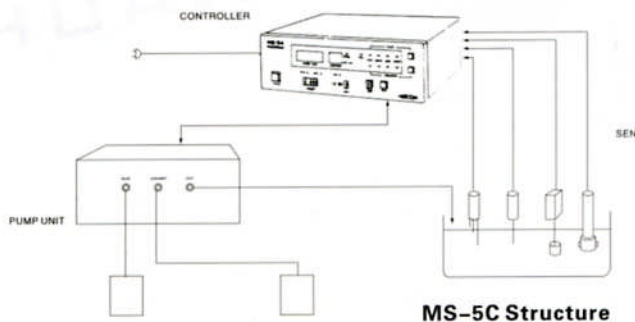
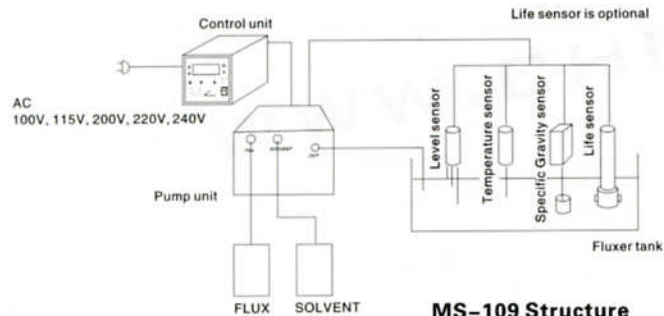
Low Solid Flux Controller MS-9C



Order Code : MS-9C

Specification

Specific Gravity Range	0.8000 – 0.9000
Specific Gravity Accuracy	± 0.0030
Temperature Measurement Range	0 – 50°C
Moisture Percentage Range	0 – 10%
Moisture Percentage Accuracy	± 0.5%
Conversion Function	Conversion Temperature (20°C) Conversion Moisture Percent (0%)
Flux Level Control	Level Control by 10mm between the upper and lower level probes
Sensor Cord	3m
Sensor Materials	Sensor, PE, PP, Valve, Polyurethane, EPT
Power Supply Source	100V, 115V, 200V, 220V





Reflow Checker RC-100



Order Code : RC-105
Order Code : RC-106

Reflow Checker Measurement

With the use of lead free solder, the management of reflow temperature profile is important. The latest reflow checker RC-100 has been designed to meet the need

- Better heat resistant for Lead Free Reflow Temperature Profile
- USB data connection for data transferring
- Cooling function at connecting end for memory unit's casing and internal part cooling
- For power supply AC 100V ~240V
- Sampling period 0.05sec

Memory Unit Type	RCM-5	RCM-6
Temp	0 - 300°C	
Channels	1 - 5 Points	1 - 6 Points
Measurement Time	- 60 minutes (Max Measurement Time is about 15 min when Temp Sampling Period is 0.05 sec)	
Sampling Period	0.05 sec, 0.1 sec, 0.2 sec, 0.5 sec, 1.0 sec, 5.0 sec	
Accuracy	±2°C	
Input	Thermocouple JIS-K 110Ω & below	
Power Source	Ni-Cd Battery	
Data Transfer	USB & RS-232C	
Weight	-750g	-320g

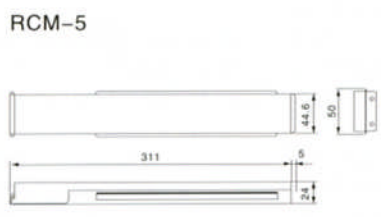
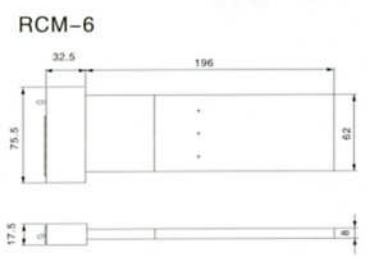
Reflow Checker RCP-100 Series



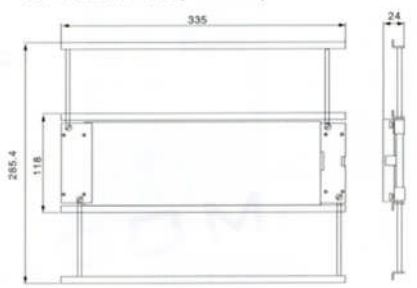
Order Code : RCP-105
Order Code : RCP-106

Analysis of the Temperature Profile

The Malcom RCP-100 Reflow Checker series shares the same characteristics as the Malcom RC-100 series units. The difference lies in the method of output. With the RCP-100, instead of using a printer/adaptor, an interface unit is used, along with Malcom TAM-4 thermoprofiling software, to download the temperature information to the operator's personal computer. The Window-based TAM-4 software has many features including the ability to allow the operator to analyze the temperature profile for each of the channel, to compare the actual results with those sought, and so on

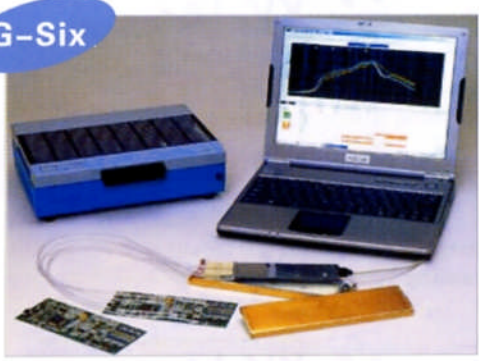


高温用耐热外壳(RCC-1)



Compact Reflow Checker RCP-200

G-Six



Order Code : RCP-200

Memory Unit : Compact and High Heat Resistance

New Sensor : Thermocouple & Heat Resistance Micro Connector

Special Features

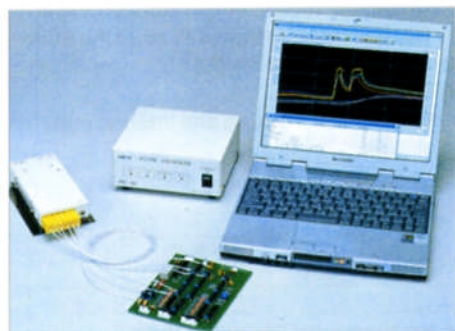
- High heat resistance & excellent performance.
- The GOLD color surface reduces radiant heat, increasing heat resistance
- Exclusive Cooling Unit effectively cools down the memory unit
- Proprietary Heat Resistance Micro Connector makes it possible to measure a 6 points
- Directly transfer data to a PC
- Lightweight and portable
- Convenient Storage Case available

Specifications

Measuring Temp. Range	0°C - 300°C	Power Supply	Lithium Polymer Rechargeable Battery
Max. Measuring Time	Approx. 90 min. (When Sampling Time is 0.05sec., approx. 15 min)	Data Transmission Method	USB
Sampling Time	0.05, 0.1, 0.2, 0.5, 1.0, 2.0, 4.0, 8.0sec. (Arbitrary setup possible)	Outer Dimension	200(D) x 50(W) x 15(H) mm
Temp. Accuracy	±2°C	Weight	Approx. 400g
Measuring Points	1-6 points	Exclusive Software	TAM-4
Input	Thermocouple JIS-K 110Ω max	Applicable OS	Windows XP/2000



Flow Profiler RC-50



Order Code : RC-50

Special Features

- Easy to measure, Control Solder Temperature and Dip Time
- Use without lengthing the thermocouple
- Analysis Solder Temperature and Dip Time by software <TAM 50>

Measurement Point	6 Channels	Sampling Time	50ms
Measurement Temp. Range	0 - 300°C	Power Supply	Ni-Cd Battery
Input	Thermocouple JIS-K 110Q or less	Adapter Power Supply	RS-232C
Measurement Time	15 min	Memory Unit Weight	Approx. 600g
Temp. Accuracy	±2°C	Record Output	AC100V 50/60Hz

Wireless Reflow Checker RCR-30



Order Code : RCR-30

Measure the reflow oven temperature condition rapidly and display in the monitor.

- Giving the information of reflow oven rapidly, increase the operating efficiency
- As the temperature measuring period is 0.05 sec, the measurement data can be collected rapidly
- With the use of Temperature profile software TAM-4, Temperature can be analyzed at different view

Multi Channel Reflow Checker FTV-16



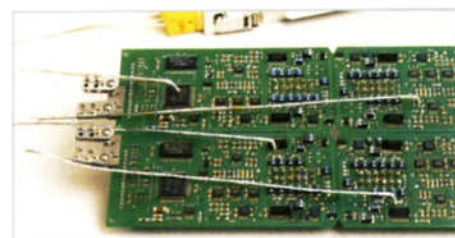
Order Code : FTV-16

Special Features

- The reflow furnace temperature can be controlled stably and precisely with high reproducibility
- A temperature profile can be recorded easily and speedily
- This system is also applicable to the temperature control of soldering unit and other drying furnaces as well reflow furnaces

Measurement Points	1 - 16 Points	Power Supply	Ni-Cd Battery
Measurement Temp. Range	0 - 300°C	Memory Unit Dimension (mm)	106Wx283Dx18T
Measurement Time	20 min	Memory Unit Weight	950g
Sampling Time	0.5sec	Record Output	RS-232C
Temperature Accuracy	±2°C	Adapter Power Supply	AC100V 50/60Hz
Input	Thermocouple JIS-K 100Q or less		

Reflow Checker Probe Holder PH-1



Order Code : PH-1

With the use of PH-1, thermocouple tip is connected to measure point without any high temperature solder paste or adhesive for fixing. This is a simple tool to fix the thermocouple to the measure point.

- Fixing the thermocouple easily and fast
- No PCB damage incurred
- Can be fix to component surface, component lead and any location
- High thermocouple reliability, cost saving

Consumable Part for RC Reflow Checker



Order Code : 30112/Male



K-Type Connector with Thermocouple with Spot-Weld

Order Code	Description
30112/Male	High Temperature K Type Connector
30106	30112/Male with Ø0.2mm x 50cm Thermocouple with spot-weld
30211	30112/Male with Ø0.1mm x 50cm Thermocouple with spot-weld
30111	K-Type Thermocouple Ø0.1mm x 50cm with spot-weld
30107	K-Type Thermocouple Ø0.2mm x 50cm with spot-weld
Customize Thermocouple at specify length with spot-weld at the end junction	



Reflow Simulator RDT-1, RDT-1 Auto Cooling



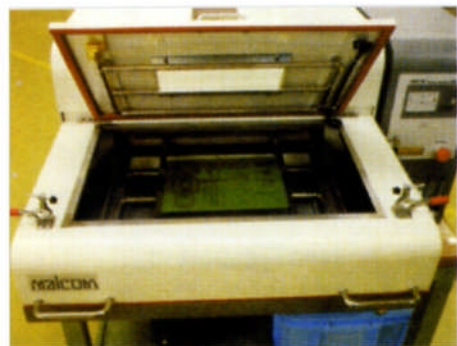
Order Code : RDT-1

- Can observe the state of heating in oven from the direction of the front, the top and the side
- Easily getting the temp. profile of soldering with Lead Free
- By the exclusive software, you can variously set up temp. of each heater and analyzes measuring temp. Profile

Application Circuit Board	Up to 250mm(W) x 330(L) x 15mm (H)
Dimension	730W x 430D x 450Hmm
Heating Method	Upper-face Extreme infrared radiation with hot-air /Lower-face Extreme Infrared radiation
Cooling Method	N ₂ Spray
Power	220V 50/60Hz 10kVA
Air	0.3 - 0.5 MPa 100 liter/min (max)
PCB Installation	Net System or Carrier System
Upper Heater	Extreme infrared radiation heater : 4Kw,with adjustable height function
Lower Heater	Extreme infrared radiation heater : Panel Type 1.75Kw (about 50W x 35) / Division control system: 50 50 block division control
Temp. Accuracy	± 2°C
Measurement Temp	Ordinary Temperature - 300°C
Measurement Point	6 Point
N ₂ Gas Supply Function	Flow Regulating Valve: 100 liter/min, Oxygen concentration : 100ppm
Control	Exclusive Software (OS: Windows 95/98/NT)
Weight	60kg

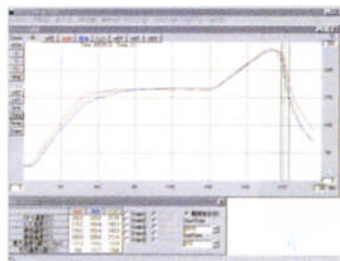


Order Code : RDT-1 Auto Cooling

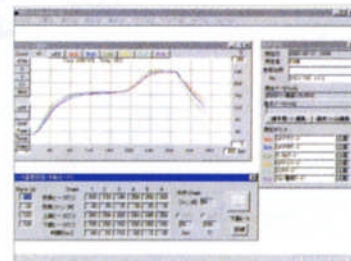


With Auto Cooling Installation, Cooling Experiment for Lead Free SMD can be carried out, easy operation

CCD Inspection



Cooling Temperature Profile for RDT-1 Auto Cooling



Temperature Profile for SMD Component in RDT-1

Reflow Simulator RDT-250C

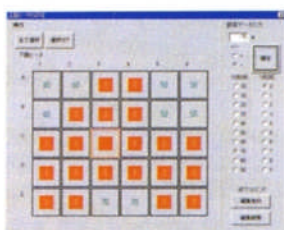


Order Code : RDT-250C

Features

- This system can be setup up within short time, faster exchange time
- With the unique top side hot wind circuit controlled, adjusting regional area heating and Δt is allowable
- Controlled the heat impact of aluminum capacitor and connector during soldering
- Preset various temperature requirement in computer, with the preset requirement to achieve a better soldering and quality.

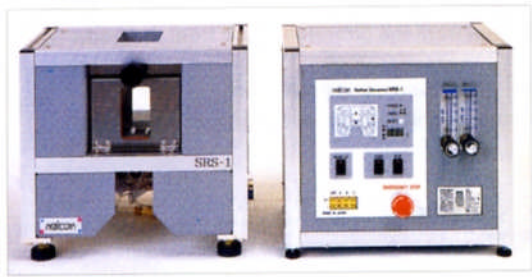
Application Circuit Board	Up to 250mm(W) x 330mm(L) x 15mm (H)
O ₂ Concentration in Furnace (when using N ₂)	Min. 100ppm
Heating Method	Upper-face Extreme infrared radiation with hot-air /Lower-face Extreme Infrared radiation
Cooling Method	Exhaust damper continuous operation by flowing air or N ₂ air (with flow adjustable valve)
PCB Installation	Net or Carrier system (Selectable on request)
Control	Exclusive software (RDT-250S) OS: Windows 95 / 98 / Me/ NT/ 2000
Measurement Temp	Room temp - 300°C
Upper Heater	Extreme infrared radiation heater: Approx. 7.2kw (240W x 30 block)/Hot air heater : 8kw (2kw x 4)
Lower Heater	Extreme infrared radiation heater: Approx. 2.0kw (330W x 6)
N ₂ Gas Supply Function	100 liter/min with flow regulating valve during operation
Measurement Point	6 Point
Temperature Accuracy	Room Temp. -80°C : ± 3°C/ 80°C - 330°C : ± 2°C



Setting panel for Individual Heater on Top of RDT-250C



Super Reflow Simulator SRS-1



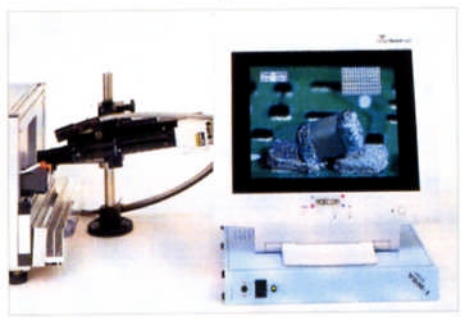
Order Code : SRS-1

Features

- This system can be setup up within short time, faster exchange time.
- With the unique top side hot wind circuit controlled, adjusting regional area heating and Δt is allowable.
- Controlled the heat impact of aluminum capacitor and connector during soldering
- Preset various temperature requirements in computer, with the preset requirements to achieve a better soldering & quality.

Applicable PCB	Max : 70W x 70L mm & below Top & Bottom Height : 10mm & below
Machine Dimension	Oven : 300W x 284D x 275Hmm Controller : 300W x 230D x 275Hmm
Heating Method	Top : Hot Air Bottom : Ultra Infrared Radiation Heater
Cooling Method	Exhaust damper continuous operation by flowing air or N ₂ air
Measuring Temp.	Room Temp : ~ 330°C
Measuring Point	3 Points
N ₂ Gas Supply Function	100 liter/min with flow regulating valve during operation
Air Supply	Compressor Air : 0.3 ~ 0.5 Mpa 100 liter/min Max
Power Supply	3 Phase 200V 50/60Hz 3 kW
Operating System	OS : Windows 98 / Me/ 2000/ XP
Weight	Oven : ~ 9kg Controller : ~ 12kg

Video Microscope



Order Code : VDM-1

Measure and Analyze Swell & Warpage by Laser

Special Features

- Heat up electronic components, PCB, FPC and etc. under real reflow oven conditions
- Can observe the heating process from the front window
- Measure and analyze the swell and warp caused by heat stress with Laser from the bottom side
- Can measure swell and warp at the desired temperature (10 points max.)
- Measure X-Y direction consequently
- Analyze the layered data

Reflow Simulator SRS-2



Order Code : SRS-2

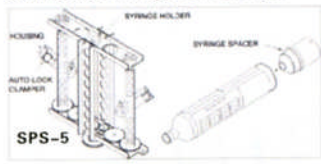
Work Size	70 x 70mm max	Spot Diameter	Approx. 70 μ m
Measurement Range	70mm max. (Y-axis) 0-3mm (Height Direction)	Resolution	0.2 μ m minimum
Table Speed	40mm/s max	Measurement Mode	Measure the designated range for temp. & time consequently
Table Positioning Resolution	10 μ m minimum	Dimension(WxDxH)	Main unit : 650 x 400 x 425mm
Light Source	Semiconductor laser 670nm class 2	Exclusive Software	2D Display, Slope Compensation, Enlarge and downsize wave data etc.

Solder Paste Softener SPS-1, SPS-2, SPS-5



Features SPS-1, SPS-2

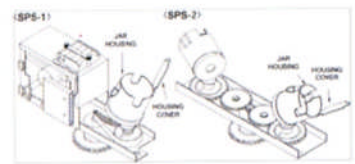
- Employs a Pseudo-Planetary Motion combined the revolution & the rotation
- The centrifugal force causes the solder paste repeatedly fold over itself thereby mixing & softening the paste
- Can select single or dual jar



Features SPS-5

- Designed specially for the non-intrusive mixing of solder paste cartridges
- Automated operation provides an even consistency of solder paste for viscosity and temp.
- Cartridge can be taken the refrigerator to screen printer in ~10 min

Order Code : SPS-1, SPS-2, SPS-5



Order Code	SPS-1, SPS-2	SPS-5
Mixing Method	Pseudo-Planetary Motion	
Centrifugal Force	Under 50kPa (0.5kgf/cm ²)	Under 50kPa (0.5kgf/cm ²)
Built in Timer	Settable from 1 to 99 minutes	
Paste Container Sizes	100cc (500g), 300cc(1kg)	Up to 2kg Cartridge
Balance	Auto-Balancing (SPS-1 only)	Dual Cartridges
Safety Interlocks	Door Switch and lock/unbalanced motion detector	
Power	100VAC, 110VAC or 220VAC, 240VAC 30W 50/60Hz	
Battery Power	Four(4) x AA batteries for auto-balancer (SPS-1 Only)	
Weight	20kg	~40kg



Wetting Tester SWB-2



Order Code : SWB-2

Features

- The entire procedure, from Flux application (w/Flux Temp. Control Function) to Measurement End is automated. Reducing unstable measurement results, and user error.
- Complies with the Wetting set method according to JIS Z3198 (Lead Free Solder test Method) Standards.
- Easily change Solder and Flux when necessary
- Efficiently analyze data with the exclusive PC software
- An optional cover allows for wetting evaluation in a N₂ environment
- **Overseas Standard:** ISO 9455-16; Solder Bath IEC60068-2-54 & 60068-2-67; ANSI J-STD-003, MIL-STD-883 (Method); IPC-TM-650 (2.4.14.2)
- **Japanese Standard:** Automatic Measurement; Flux Application, Removal & Measurement : JIS Z3198-4 or C0053; Solder Bath : JEITA ET7401

Load Sensor	Electro-Balance Sensor (EBS)
Max. Measuring Range & Accuracy	100mN-50mN ± ~0.1mN
Load Sensor Resolution	Under 9mN : 0.01mN 9mN and Above : 0.05mN
Temp. Sensor Measurement Range & Accuracy	0-350°C ± 3°C
Insertion Time, Depth & Accuracy	0-200 sec. 0.01-20.0mm(0.001mm step) 0.1-30mm/s
Solder Temperature Setting	Room Temp. -330°C
Data Transmission Method	USB Applicable OS : Windows 2000/XP
N ₂ Measurement (Optional)	Oxygen Concentration : 500ppm max.
Power Supply	AC 100V 50/60Hz
Outer Dimension (WxDxH)	300mm x 330mm x 370mm
Weight	Approx. 16.0kg

Solder Paste Wetting Tester SP-2



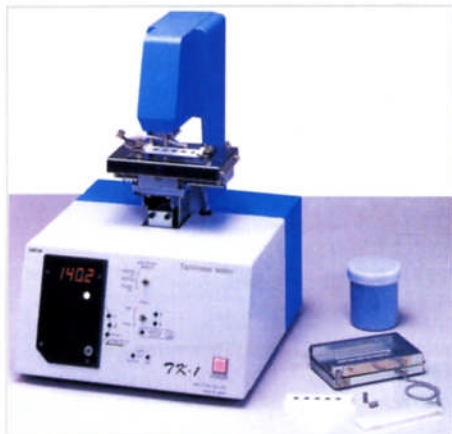
Order Code : SP-2

Features

- Test wettability of solder paste, component leads and PCB substrate landings
- Simulates air or N₂ environment
- Ultra-sensitive detection of the most minute forces
- Full software control of testing process (including setting of profiles) as well as analysis
- Digital displays show load, depth and temperature
- Built-in heater's programmable thermo-profile is similar to that of actual reflow oven
- Allows measurement of miniature-sized components

Sensor Technology	Electro-Balance	Temperature Profile Settings	Preheat Rate : High, Med, Low Preheat Temp : 0 - 300°C Preheat Time : 0 - 300 sec Ramp-up speed : 0 - 4.0°C/sec Melting Point : 0 - 300°C
Sensor Limits	-5.00 gf - +10.00gf	Other Presets	Range select : 1gf or 10 gf Table Speed : Fast, Med, Slow
Sensor Accuracy	± 0.01 gf for 1 gf range ± 0.05 gf for 10 gf range		
Heater Range	Room Temperature - 300°C		
Heater Atmosphere	Compressed air or N ₂ purge		
Parameters Displayed	Load, Depth and Temperature		

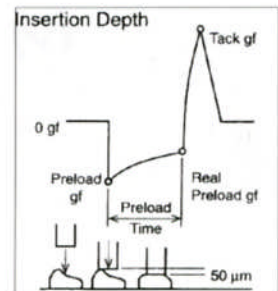
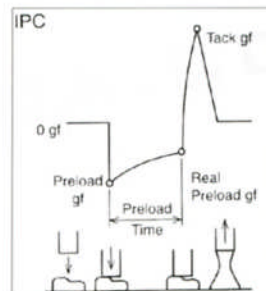
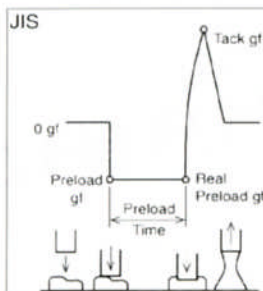
Solder Paste Tackiness Tester TK-1



Order Code : TK-1

Features and Benefits

- Quantifies solder paste tackiness
- Determines component drop-time, thus reducing costly rework
- Three testing methods available
- User-variable measurement conditions (time, preload, depth and speed)
- Digital Display of measured tackiness, real preload and real insertion depth



Three Methods of Measurement

Proper measurement of the tackiness of a solder paste requires a testing sequence which closely simulates the operation of AC chip mounter. The testing method should be performed (1) at a high speed, (2) with continuous lading and (3) for a short duration. The JIS Standard worldwide compliance, the TK-2 also executes the IPC standard test method for tackiness. Additionally, Malcom's own Insertion Depth Method provides an alternative testing procedure to complement the others

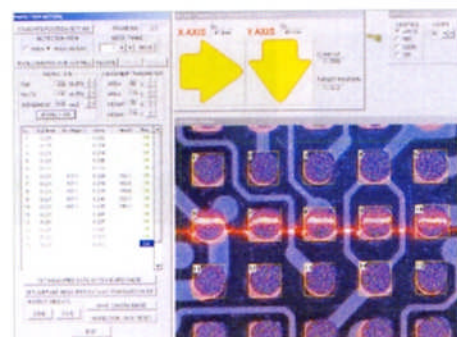


Paste Print Inspector TD-4M

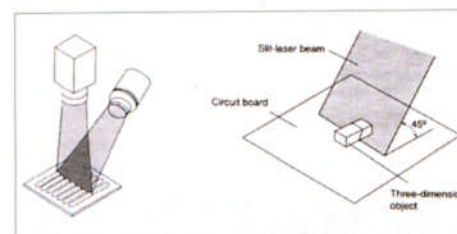


Order Code : TD-4M

Inspection	
Inspection Object	Area & Height
Measuring Field	2mm (D) 3mm(W) 50 – 350 μm (H)
Resolution	8 μm
Decision Function	Automatic Inspection by Colored image processing
Inspection Points	Max. 150 Frame / 1 PCB
Input Method	Teaching Method
PCB Size	Dimension: 50 x 50mm – 250 x 330mm, Thickness: 0.5 – 2.0mm
Inspection Range	240 x 320mm
Optics	
Light Source	Semi-Conductor Laser White LED and Red LED
Camera	1/4inch Colored CCD
Height Measuring Principle	Slit-Laser Method: Laser Hits Target at 45°angle
Area Measuring Principle	Colored Image Processing
Laser Slit	2 μm x 10mm
Laser Classification	Class 2



Measurement Principle



Special Features

- High cost performance
- Can measure height by slit laser
- Colored CCD camera
- Axis Display Function makes PCB move easily
- Save data in flash memory
- Can SPC data analysis based on measured data

Paste Print Inspector TD-6A



Measure Height, Area, Volume & Mis-printing of Printed Solder Paste

Special Features

- Active Slit-Laser scans the board, and displays a full 3D image
- Multi-colored LED illuminates using 16 million colors, making it possible to measure various kinds of PC Boards accurately.
- Gerber data program allows for speedy data inspection
- SPC data analysis of the automated measurement data. (Optional)



Order Code : TD-6A

Inspection	Inspection Object	Height, Area, Mis-printing, Volume (3D image)	Optics	Light Source 1	Overhead RGB LED (16.77 million colors)
	Measurement Range	5.85mm(W), 4.39mm (D), 50-300 μm(H)		Light Source 2	Angled RGB LED (16.77 million colors)
	Resolution	Approx. 5.2 μm		Light Source 3	Laser
	Approval/Rejection Function	Automatically determines if paste meets user-specified standards using color image processing		Camera	High-speed & High-resolution color camera
	Inspection Data Testing Method	Teaching, Gerber data conversion program		Height Measurement Principle	45°Slit-Laser Method
	PCB Dimension	Min. : 50 x 50mm Max. :250 x 330mm Thickness : 0.5-3.0mm		Area Measurement Principle	Color image processing
	Measurement Range Possible	240x320mm		Slit-Laser	Laser : 8mm(H) x 10 μm
Main Unit					
System	High-Speed image processing computer system	Power Supply	AC 100-240V 50-60Hz 450VA		
Interface	Input : Keyboard, Mouse, Monitor	Weight	Approx. 45kg		



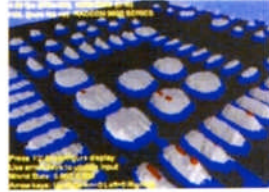
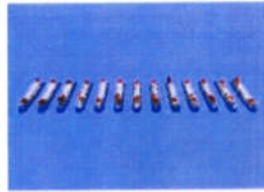
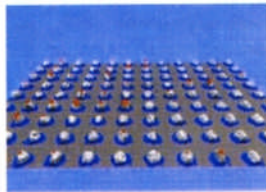
In-Line Paste Print Inspector ID-3M



Order Code : ID-3M

Features

- Full 2D and 3D inspection capabilities allows for user specified measurement, catering to each individual use
- Low Cost High Performance
- Compact Size / Footprint
- Multi-colored LED illuminates using 16 million colors, making it possible to measure various kinds of PC Boards accurately
- Gerber data program allows for speedy data inspection



3D Image

Solder Copper Content Measurement System



Order Code : MCD-1

Measurement Principle	Absorptiometric Method (Colorimetric determination measurement by TTPS color reagent)
Measurement Range	CU Weight in Solder : 0.0~1.5% * Measurement greater than this range may be possible with optional configurations
Accuracy	± 0.05%
Sampling Weight	Approx 10~30mg
Absorbance instrument Light Source	LED
Used Chemicals	TTPS, Ascorbic Acid, Ammonium Acetate, Nitric Acid & Sulfuric Acid
Scale	Measurement Range : 0 99.9mg Accuracy : ± 0.2mg
Power Supply	AC100~240V
Dimension	250W x 300D x 160Hmm

Solder Impurity Checker STA-2

Can Measure Pb 0.1% or less

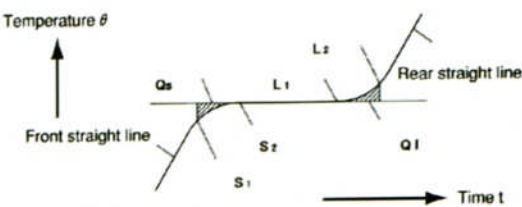


Order Code : STA-2

Special Features

- Applicable for RoHS Directive (WEEE : Directical on Waste from Electrical and Electronic Equipment, Pb mixed rate under 0.1%)
- PB measurement accuracy is ± 150PPM
- Short Measuring Time
- Low Cost and can measure by small amount

Analysis Method	Heat-up analysis
Sampling Amount	Approx. 14g
Pb (Lead) Measuring	0%~0.5%(Normal Mode); 0%~0.1% (High Performance Mode)
Pb Measurement Accuracy	± 0.075% (Normal Mode); ± 0.015% (High Performance Mode)
Cu(Copper) Measuring	0.3%~0.9%
Cu Measurement Accuracy	± 0.1% (Not Accurate 0.7% or over)
Measurement Time	Approx. 40 min
Sampling Temperature	170°C ~ 280°C
Sampling Measurement	± 1.5% within measurement range
Max. Furnace Temp.	300°C
Power Supply	AC 100V, 110V, 220V, & 240V 200W
Weight	Main Unit : Approx . 4.5kg; Heating Furnace : ~1.3kg



<6 elements to be obtained >
 S1 : Solid phase equilibrium temperature
 Qs : Solid phase equilibrium heat
 S2 : Eutectic start point temperature
 L1 : Eutectic end point temperature
 Q1 : Liquid phase equilibrium heat
 L2 : Liquid phase equilibrium temperature

Measuring Principle



Z-Check 600, SPIDA



Order Code : Z-Check 600



Order Code : SPIDA

Both systems are a highly accurate, non-contact solder paste measuring system that can produce SPC reports on up to ten different lines of production

Z-Check 600 has a fixed magnification of **X50** while **SPIDA** has a **5 position** zoom lens from **X30 ~ X160**. Both have a Maglok gliding stage which allows easy positioning of the subject under the camera. Operating the system is fast and very user-friendly. To measure a solder pad deposit, the operator places the subject on to the gliding table and positions the subject into view on the monitor.

Measurement of X-Y dimensions can be made by framing the past deposit using the on screen scalar lines.

Height and volume measurement are made with the click of the mouse, eliminating operator error.

Saved data can be viewed at any time during the process on any or all lines of production. The data can be presented as a chart, X-bar chart, R-bar chart or as a histogram. On Screen Images can be saved and printed to photographic quality

Features

- Geometric Functions
- Angle, Circles, Irregular Shapes Area can be measured
- Maglok Gliding Table Included

Specification

Magnification : X50 (**Z600**),
5 position zoom lens X30-X160 (**SPIDA**)

Surface Lighting : 6V 1.2Amp (**Z600**)
150w Fibre optic ring (**SPIDA**)

Micro Light Slit: 6V 1.2Amp (**Z600**)
150w Fibre optic (**SPIDA**)

Optical System: S video CCD Camera

Monitor : 17 inch SVGA

Computer: Pentium 2 333Mhz

Focusing Range: 10mm Fine, 100mm Coarse

Maximum Sample Height : 60mm (**Z 600**), 100mm (**SPIDA**)

Throat Depth: 250mm (**Z600**), 375mm (**SPIDA**)

Machine Dimensions 365W x 550D x 450Hmm (**Z600**)

Maglok Gliding Stage: 310 x 310 x 70mm (**Z 600**)
410 x 410 x 70mm (**SPIDA**)

Maglok Movement: 250x250mm movement, 10mm (**Z600**)
300x300mm movement, 10mm (**SPIDA**)
fine movement on X and Y axis

Paste Height Measurement: 0.02 min. to 0.35 max. (**Z600**)
600 min. to 700mm max. (**SPIDA**)

Z-Check 500



Order Code : Z-Check 500

Non-contact Thickness Measuring System

Z-Check 500 provides fast, accurate non-contact thickness measurement of wet and dry surfaces such as **Solder Paste, Epoxies Components Leads, Foils** etc, With a measuring range of 10mm, a robust, high precision Granite work table of 500mm x 500mm. **Z-Check 500 CCTV** is ideally suited in any Production environment

Z-Check 500 works by differentially focusing between the sample substrate and the top of the sample being measured, ie solder paste pad. Operator error is removed by a unique optical sighting system. A micro-slit of light is projected onto the surface of the sample from an angle. When this is coincident with a central graticule on the monitor/eyepiece, the subject is in focus. When the sample is moved, the light slit moves laterally and bringing this back to coincide with the graticule, refocusing the instrument. The distance move by the microscope in refocusing is the difference in height between the first and second position. In this way, varying interpretations by different operators on the focus position are eliminated

Additional Features

- Colour CCTV version
- Video Scalar for 'X'/'Y' Measurement
- Video Printer
- X/Y Moving Stage
- Choice of Magnification

Magnification	X50
Digital Readout	0.001mm (0.0001 in)
Project Lamp	6V, 1.2 Amp Tungsten
Surface Illumination	6V, 1.2 Amp Tungsten
Max Sample Height	10mm (0.4 in)

Throat Depth	240mm (9.5 in)
Granite Base Size	500mm x 500mm (20 x 20 in)
CTV	1/3" CCD Camera 9" Monochrome Monitor**
Power	24 VAC 50/60Hz, 110V AC (Optional)

* = Standard Size on Z-Check 500B Version and Optional on Z-Check 500CCTV Version

** = Colour CCTV Version Specification on Request



Temperature Controller for LA method Soldering Iron



Order Code : M50



Order Code : M12

Adding auto tuning function of PID and restoration speed adjustment function to the conventional model has enabled full demonstration of the performance of soldering iron. Even a person using LA soldering iron for the first time can master it immediately

Features (M50/M12/MW50/MW12)

- Setting temperature and actual temperature of iron tip are constantly displayed digitally
- Limit alarm sound and display of setting temperature
- Auto tuning of PID value enables the restoration to the most adequate temperature
- Equipped with regulating function of restoration speed
- Corresponds to all TB series soldering irons



Order Code : MW50



Order Code : MW12

The necessity of two reamed controllers

It is getting difficult to cope with the severe restriction condition of lead-free soldering by one type of soldering iron. Electronic parts and boards continue to diversify and thermal capacity of soldering objects differ greatly. In such situation, please try two ream type controllers, which will not take much workspace



Order Code : MTR14

MTR14 Features

- Occupation area is same as the single ream type
- Soldering Iron to be installed can be freely selected
- It is best for works in which many kinds of soldering irons are used, such as cell work, correction and repair work

Optional

- Iron tip for extraction work such as IC (SOP, QFP)
- Resin iron tip that can manage precise temperature control
- Mini-dip tank for preliminary wire rod



Order Code : M16T

M16T Features

- Temperature change is displayed on liquid crystal screen
- For extracting temperature condition of soldering work and for operator's education and training



Order Code : M15T

M15T Features

- Smaller Products
- Without function Abnormality of control temperature of iron tip



Order Code : M9XT

M9XT Features

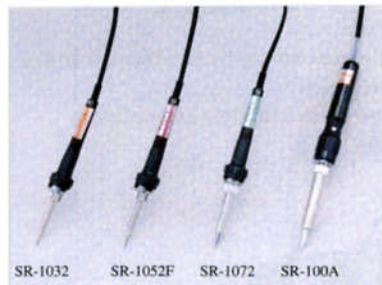
- Smaller and Low Price Product
- For specific work as it has no digital display

Order Code	M50	M12	MW50	MW12	MTR14	M16T	M15T	M9XT
Input Voltage	AC100V~240V (Universal Power Supply)							
Temp. Input Range	0~500°C					0~600°C		—
Power Cable	1.5m : 3PCHI (with earth)							
Dimensions (WxDxH)	97 x 130 x 73			95 x 130 x 130		186x193x205	63 x 135 x 85	
Weight	Less than 800g		Less than 1300g			< 1900g	< 720g	< 550g
Temp. Control Method	PID Control							
Temperature Display	Actual iron tip temperature, setting temperature—							—
Error Display	Over Scale, sensor black							—
Alarm Function	Yes				—	Yes	—	
Case Material	Steel							
Power Consumption	< 10VA		< 20VA		<30VA	< 16VA	< 10VA	< 5VA
Fuse	3.0A		3.0A x 2		3.0A x 3	3.0A		
Communication Function	Yes	—	Yes		—	—		

Soldering Iron Unit

	TB118	TB140JA	TB140-JB	—	—	TB-150	TB-150KM	TB-155JA	TB-155JB	TB-165	TB-195J	TB-1100
100V	—	—	—	TB-240	TB-240KM	—	—	TB-255JA	TB-255JB	TB-265	TB-295J	TB-2100
220V	—	—	—	—	—	—	—	—	—	—	—	—
Heater Output	18W	40W	40W	40W	40W	50W	50W	55W	55W	65W	95W	100W
Iron Tip	BN5	BJ5	BJ6,XBJ6	BN7, 8 BN10	BN7KM	BN7,8,BN10	BN7KM	BJ7	BJ8 XBJ8	BNP10 BN11	BJ11 XBJ11	BN12

SR Series Soldering Iron



Features of SR series

A simple type without thermo-regulator, it can be used just by plugging to power supply



SRL-1072FP

The L-shape grip is specially made available L type Soldering Iron
 SRL-1072FP, 1082, 100A
 SRL-1172FP, 1182, 110A
 SRL-2272FP, 2282, 220A

Soldering Iron Stand

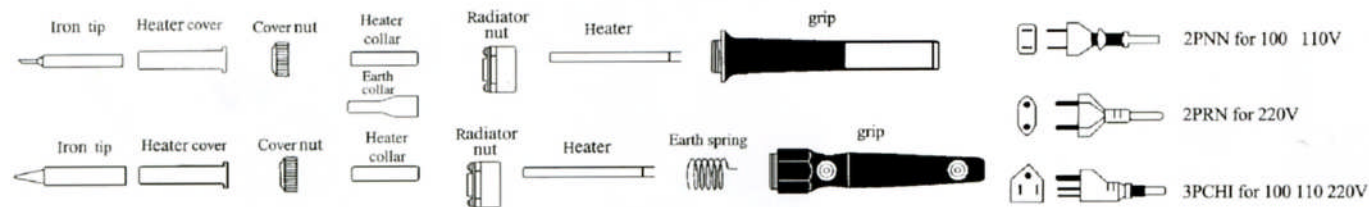


Aluminium Base

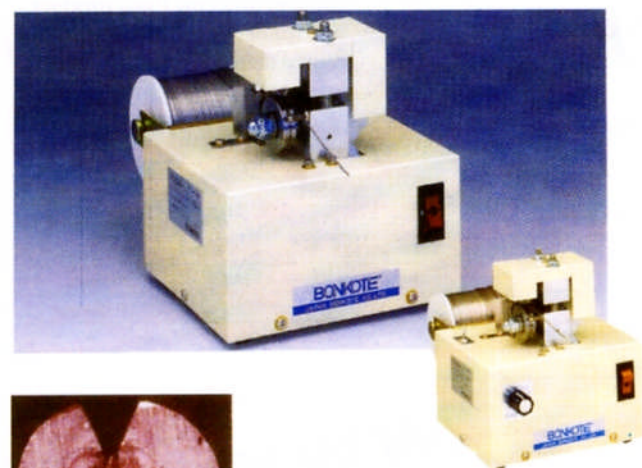
Order Code : BON-5AF

Order Code	Heater Output	Proper Temperature Range	Insulating Resistance	Weight	Total Length	Replacement Heater (220V Input)	Standard Iron Tip
SR-1022	13W	300-330°C	100MΩ or more	-130g	-195mm	CE-110-13	SG6-2C
SR-2232	18W	380-430°C		CE-220-18			
SR-2252F	25W	430-530°C	50MΩ or more	-135g	-213mm	CE-220-25	SG7-2C
SR-2262F	30W	450-500°C		CE-220-30			
SR-2272	40W	520-570°C	20MΩ or more	-150g	-235mm	CE-220-40	SG10-8BC
SR-2272FP	65W	570-650°C		CE-220-65			
SR-2282	60W	460-480°C		CE-220-60			
SR-220A	100W	560-650°C		CE-220-100			

- Replacement Heater : CE-XXX-YY → XXX : Input Voltage, YY : Power Consumption
 E.g. 100V input → CE-100-18, 110V input → CE-110-18, 220V input → CE-220-18
- Above Listed models are all 220V except SR-1022, for 100V, Model will change to, eg SR-2232 → SR-1032, for 110V, Model will change to, eg SR-2232 → SR-1132



V-Cutting unit for Wire Solder V-Solder Prevent Solder Scattering



BON-6130 with timer



Cross Section of V Cut Groove

Features

- V ditch processed just before soldering, so that solder balls are controlled without deterioration in the flux element
- The flux that oozes out through V ditch is useful for the improvement of wet character
- Combined use of LA method soldering iron, which has small temperature drop and capable of low temperature setting, stimulates the controlling effect further
- Size substitution of solder wire from 0.5 to 1.6mm diameter can be done by exchange of guide pulley

Specifications

Order Code	BON-6002	BON-6130 with timer
Solder Feed Length	50Hz 40mm/sec, 60Hz 48mm/sec	
Solder Diameter	0.5, 0.6, 0.65, 0.8, 1.0, 1.2, 1.6Ø	
Guide Pulley	GP-05, 06, 065, 08, 10, 12, 16	
Operation Method	Foot Switch	
Setting of sending time	Timer (30s max)	
Dimensions	142W x 160H x 122D	
Weight	1950g/2350g (Solder not included)	





Fine Cleaner No Pollution for Natural Environment



Features

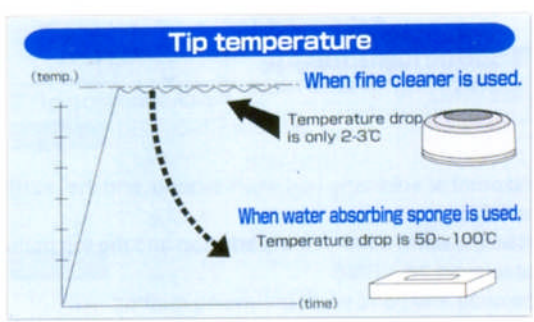
- Solder residue on the iron tip is collected by jar that is made of heatproof rubber. Solder residue can be taken off from iron tip, either by pushing it to rubber side, edge, wire or by beating it by edge
- When B-500 is used to beat the iron tip by edge, solder residue is hardly dispersed
- Temperature drop due to cleaning is only 2-3°C, so the problem of unsoldering will not occur
- The heat shock of iron tip is small, and this gives long-life to iron tip and heater (Temperature drop caused by sponge absorbing water: 50-100°C)
- Collection of solder residue and its disposal to a prescribed place is easy, and environmental problems would be solved in accordance with ISO14000

How to use Fine Cleaner

- Iron tip is pushed to the rubber side
- The bottom board is removed and solder is disposed to a prescribed place
- Rubber and the bottom board are detachable

Specification

Order Code	Hole Diameter	Size	Weight
B-500	50mm	87 x 30mm	185g
B-250	25mm	50 x 22mm	65g



Silicon Tip Cleaner KE0107



Order Code : KE0107



Features

- Ecology Friendly – Solder recovery is easy. Solder is collected in the case
- Pb Less Solder– No use of water to clean. Maintain the tip temperature. The damage of tip is low.
- Good Quality– The defective goods are reduces (By tip's temperature is going down)
- Compact

Specification

- Power AC100V, 50/60Hz
- Power Consumption 6W
- Dimension 79L x 87W x 128Wmm

Clean-O-Point Tip Cleaning System Motorized Cleaning System



Clean-O-Point Stop+Go

Order Code : 2986 (115V)
2985 (230V)



Fast and perfect soldering iron tip cleaning

Ends Solder Splashes at the work bench

The clean-o-point motorized tip cleaner has proved itself over and over!

Now a standard feature of modern work benches. It is integrated into the ELVO soldering stations and the stop+go model

60W (Peak) Soldering Iron with Precision Ceramic Heater



Spare sponges
8 pcs / package

Order code : F3008

Temp. Range	140 - 450°C
Tip Leakage	≤2 mV
Standard Tip	S 2.0 mm (5/64")

Precise Control for Soldering Iron of 3P Plug (with Earth)

Digital Soldering Iron Tester MCA-700



Order Code : MCA-700

Features

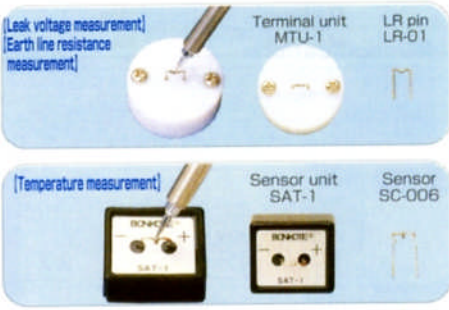
- Measurement of temperature, leak voltage and earth line resistance can be all measured with only one unit
- It is not necessary to calculate, you only have to read the digital display
- It is possible to exchange the Sensor speedily by one-touch plug-in method
- Management according to ISO-9000, QS-9000 and MIL is possible
- Models for 100V, 120V and 220V are available

Specification

	Indicated Range	Precision	Sensor
Temperature	0 - 600°C 32 - 999°F	±(3°C + 1 dig) ±(5°C + 1 dig)	0.75 class Type K
Leak Voltage	0.0 - 99.9mVAC	±(0.2mV + 1 dig) (0-2mV range) ±(10% + 1 dig) (2-99.9mV range)	-
Earth Line Resistance	0.0 - 99.9Ω	±(0.5Ω + 1 dig) (0-10Ω range) ±(5% + 1 dig) (10-99.9Ω range)	-

The extract from MIL-STD-2000

- The electric resistance between the top point of soldering iron while heated and the earth point of the workshop must not exceed 5.0Ω
- The electric potential difference between the earth point of the workshop and the top point of soldering iron while heated must not exceed 2m VRMS
- The power supply should use three line code and point earth grounding method
- The soldering iron should be designed to have a switch change at 0 voltage
- Do not use transformer type soldering iron



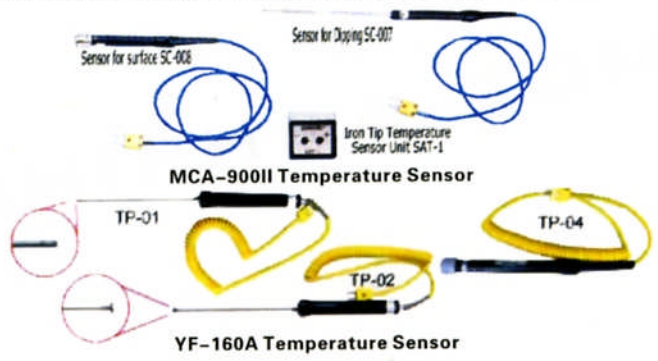
Digital Thermometer MCA-900II

Features

- The heat loss of the sensor being small, it can measure accurately even smallest soldering iron tip
- Because it is a handheld type, it can be used for all kinds of work
- There are three kinds of thermal sensors for various purposes



Order Code : MCA-900II
Order Code : YF-160A



How to use iron tip temperature sensor unit?

Slightly wipe iron tip with cleaner, and put small amount of solder onto iron tip end slightly contact with sensing portion

- Initial and Regular Calibration is not included in a unit. Please ask for initial calibration before order
- All the sensor are optional

Specification

Resolution	0.1°C (0°C - 199.9°C)/1°C (All range of Measurement)
Measurement Range	0°C - 1000°C
Sensor	Type K
Measurement Precision	±(0.3% rdg + 2°C) (23°C ± 5°C Body only)
Display	3.5 digits LCD Display
Power Supply	006P DC9V 1 dry cell
Battery Life	250hr (battery continuous work)
Operating	0 - 40°C, 80% RH max
Dimensions	80W x 156H x 40Dmm (sensor not included)
Weight	305g (including battery)





Bonkote Tips

MODEL	BN5	SG5
Soldering Iron	TB-118	PC-114 PC-117N
Type B	2B 2.5mm	3B 3.5mm
Type BC	2BC 2.5mm	
Type C	1C 1.5mm	2C 2.5mm
Type D	1CR 1.5mm	2CR 2.5mm
Type CV (SMA model only)	0.2CV 0.2mm	
Type D	2D 2.5mm	3D 3.5mm
Type KF	KF KFD KFE KFF	

MODEL	BN7	SG7
Soldering Iron	TB-150 TB-240	SR-1021F SR-2252F SS-1005A TC-3001A
Type B	0.2B 0.2mm	2B 2.5mm
Type BC	0.2BC 0.2mm	2BC 2.5mm
Type C	0.2C 0.2mm	1C 1.5mm
Type D	0.2CR 0.2mm	2C 2.5mm
Type CV	0.2CV 0.2mm	
Type D	2D 2.5mm	3D 3.5mm
Type KF	KF KFD KFE KFF	

MODEL	BN7	SG7
Type CR	2CR 2.5mm	3CR 3.5mm
Type D	3D 3.5mm	5D 5.5mm
Type KF	KF KFD KFE KFF	

MODEL	BN7-KM
Soldering Iron	TB-150KM TB-240KM
Type B	2B 2.5mm
Type C	2C 2.5mm
Type D	2CR 2.5mm
Type KF	KF KFD KFE KFF

MODEL	BN8	SG8
Soldering Iron	TB-150 TB-240	SR-1002F SR-2262F SS-1005A TC-3001A
Type B	3B 3.5mm	5B 5.5mm
Type C	3C 3.5mm	4C 4.5mm
Type D	5D 5.5mm	
Type KF	KF KFD KFE KFF	

MODEL	BN10	SG10
Soldering Iron	TB-150 TB-240	SR-1002F SR-2262F SR-2272F SS-1005A TC-3001A
Type A	5A 5.5mm	
Type B	6B 6.5mm	8B 8.5mm
Type BC	4BC 4.5mm	6BC 6.5mm
Type C	1.5C 1.5mm	2.5C 2.5mm
Type D	3C 3.5mm	4C 4.5mm
Type E	6C 6.5mm	8C 8.5mm
Type F	6CR 6.5mm	8D 8.5mm
Type G	6DZ 6.5mm	8DZ 8.5mm
Type H	8D 8.5mm	
Type KF	KF KFD KFE KFF	



Is the standard iron tip of each mode

MODEL	BNP10	SGP10
Soldering Iron	TB-165 TB-265	SR-1072FP SR-2272FP SS-3000FP TC-1200FP
Type B	4B 4.5mm	6B 6.5mm
Type BC	4BC 4.5mm	6BC 6.5mm
Type C	2.5C 2.5mm	3C 3.5mm
Type D	3C 3.5mm	4C 4.5mm
Type E	6C 6.5mm	8C 8.5mm
Type F	6CR 6.5mm	8D 8.5mm
Type G	6DZ 6.5mm	8DZ 8.5mm
Type H	8D 8.5mm	
Type KF	KF KFD KFE KFF	

MODEL	BNP10	SGP10
Type CR	4CR 4.5mm	6B 6.5mm
Type D	6B 6.5mm	8B 8.5mm
Type KF	KF KFD KFE KFF	

MODEL	BN12	SG12
Soldering Iron	TB-1100 TB-2100	SR-1002C SR-2282C SS-1005A
Type A	10A 10.5mm	
Type B	10B 10.5mm	
Type BC	10BC 10.5mm	
Type C	4C 4.5mm	
Type D	10C 10.5mm	
Type E	10D 10.5mm	

MODEL	BN11	SG11
Soldering Iron	TB-165 TB-265	SR-1072FP SR-2272FP SS-3000FP TC-1200FP
Type B	5B 5.5mm	7B 7.5mm
Type BC	4BC 4.5mm	6BC 6.5mm
Type C	4C 4.5mm	6C 6.5mm
Type D	7D 7.5mm	
Type KF	KF KFD KFE KFF	

MODEL	BNJ7	J7
Soldering Iron	TB-150 TB-240	SS-1005A TC-3001A
Type J1	JF JFD JFE JFF	
Type J2	JF JFD JFE JFF	
Type J3	JF JFD JFE JFF	
Type J4	JF JFD JFE JFF	
Type J5	JF JFD JFE JFF	
Type J6	JF JFD JFE JFF	
Type J7	JF JFD JFE JFF	

Iron tip of NLA method is SG model (Without Temp. Sensor)
Iron tip of LA Type method is BN model (With temp. Sensor)



Bon Pen Easy Application of Flux with Pen-like Brush

BON-102 Series Flux Pen

Order Code
BON-102 Brush-type (Thin)



Order Code
BON-102D Brush-type (Flat)



Order Code
BON-102L Brush type (Long)



Order Code
BON-102B Felt-type (Thin)



Order Code
BON-102F Felt-type (Flat)

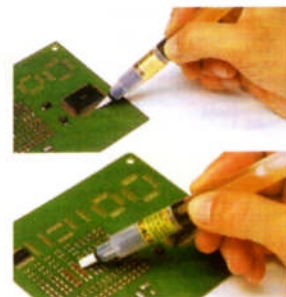


Features

- It is a brush pen type, easy to carry and has an excellent workability
- If refilled, it can be used for many times
- Evaporation of flux is being prevented and the density is kept constant

Purpose

- Spreading to base material before soldering (improvement of wet character)
- Heat transmission and wet character are improved by spreading it to the object when correcting it.
- The board is washed by solvent such as alcohol. (Organic solvent are prohibited)



BR-102 Series Pen Tip

Model	Pen tip
BR-102	
BR-102D	
BR-102L	

Model	Pen tip
BR-102B	
BR-102F	
Model	Pen tip
CA-102	

Bench Top Soldering Fume Absorber JF628



Order Code : JF-628

Features

- ESD Safe
- Adjustable, Low Noise, High Performance Fax
- Activated Carbon Filter
- Easy to replace filter

Activated Carbon Filter

Grade	TA 130
Basic Weight	400g/m ²
Thickness	5mm
Pressure Drop	0.8mmAg (100cm/s)
Pore Per Inch	30
Carbon Content	78% 316g/m ²
Standard Size	50 x 76cm
Toluene Adsorption	6.5% (w/w)

Flux Dispenser



Order Code : FD-5015

Applications (Flux Dispenser)

- For Spreading Flux
- For Spreading FLASHING Alcohol
- For Spreading Silicon
- For Various Kind of Liquid Dispenser

Menda 3300 Series Fluid Dispenser



USA Made

Order Code (Clockwise from left)
3316 (6oz), 3318 (8oz),
3314 (4oz), 3312 (2oz)

Menda M-Line ESD Dispenser



Order Code :
M-Line-60E(6oz)



Ceramic Heater Type



Order Code : CS96ESD Order Code : CS96

P.I.D. Temperature Control Soldering Station

Order Code	CS96	CS96ESD	AT 936A ESD Safe
Temperature Range	200°C ~ 500°C		200-480°C
Power Consumption	24V AC/60W		AC 24V
Heating Element	96-H Ceramic Heater		Ceramic Heater
Soldering Iron	CS96-1	CS96ESD-1	M
Standard Tip	900M-T-B		



Order Code : AT 936A

Non Temperature Control Soldering Iron

Order Code	CS902ESD	CS903ESD
Power Consumption	15W	25W
Heating Element	902-H Ceramic Heater	903-H Ceramic Heater
Standard Tip	900M-T-B	900L-T-B



Order Code : CS902ESD



Order Code : CS903ESD

Hot Air Desoldering 638 / 638B



Order Code : Hot Air 638, Hot Air 638B



Desoldering Steps

Order Code	Hot Air 638	Hot Air 638B
Temp. Range, Accuracy	Room Temp - 470°C, ±0.5°C	
Rising time to 300°C	5 seconds	
Power Consumption	560W	
Air Flow	3-45L/min	
Voltage Surge Protection	Prevent Voltage Overload	
Vacuum Pump	Continuous 0.3g-130g	
Lead Free Process	Yes	
ESD Safe	Yes	
Auto Cooling System Off	60°C	
Pedal Control	Yes	
Accessories	7 Standard Size Extractors : 23*23, 25*25, 29*29, 33*33, 37*37, 40*40, 44*44; 1 Tripod, 1 Vacuum Pen, 1 Continuous Vacuum Pen	Custom made 2 chip sizes Extractors, 1 Tripod, 1 Vacuum Pen, 1 Continuous Vacuum Pen

SMD Rework Station ATEN 850 ESD Safe



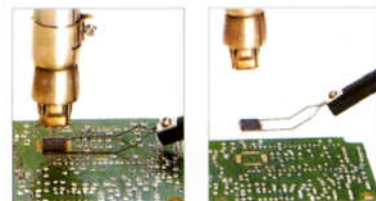
Order Code : AT 850A

- A wide range of adjustment of the air flow rate and temperature permits soldering and desoldering of QFP, SOP and PLCC type IC with same nozzle.
- ESD safe by design. Different IC with different temperature.
- Automatic Cooling System
- Automatic cooling system continues function when the power is off, protects the heating element and handles, thereby increased the life span
- Nozzle and component must keep a distance when using 850A to protect the component
- A compact design takes up less bench space

Nozzles

Order Code	Order Code	Order Code	Order Code
A1125	QFP 10x10	A1261	QFP20x20
A1126	QFP 14x14	A1262	QFP12x12
A1127	QFP17.5x17.5	A1263	QFP28x40
A1128	QFP 14x20	A1264	QFP40x40
A1129	QFP 28x28	A1265	QFP32x32
A1130	Stand alone	A1182	BQFP24x24
A1131	SOP 4.4x10	A1257	SOP11x21
A1132	SOP 5.6x13	A1258	SOP7.6x12.7
A1133	SOP 7.5x15	A1259	SOP13x28
A1134	SOP 7.5x18	A1260	SOP8.6x18
A1142	Bent Single 1.5 x 3	A1187	TSOL(TSOP) 18.5x8

QFP Desoldering Process



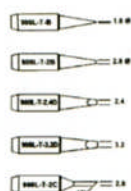
1. Place the FP pick up into the lead frame. Place the nozzle over the lead frame and melt the solder
2. Gently lift the SMD from the circuit board

Specification

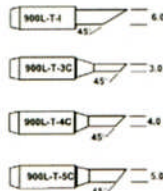
Station	
Power Consumption	20W (2W when power off)
Pump	Diaphragm Type
Capacity	23 l/min (Max)
Dimension (WxHxD)	187 x 135 x 245 mm
Weight	~ 4kg
Iron	
Power Consumption	250W
Hot Air Temperature	100-420°C (with A1126)
Length	196mm
Weight	120g

900 Series for Coso/Hakko/ATTEN AT936A Soldering Iron

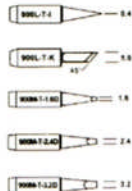
Order Code



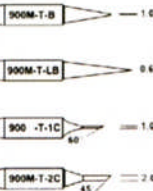
Order Code



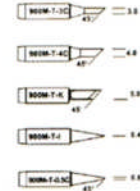
Order Code



Order Code



Order Code



ADVANCED SERIES, A NEW AND REVOLUTIONARY SOLDERING TECHNOLOGY

Control Unit AD 2700



Order Code : AD 2700
(Without Handpieces)

Control unit AD 2700 is the basic control unit that allows operation alternatively with a 20W or a 50W soldering iron, covering all electronics soldering requirements.

The stand for the soldering iron is integrated with the control unit and is "intelligent" which means it is aware when the soldering iron is in the stand and reduces the temperature, remaining in the "sleep cycle". The stand incorporates a tip extractor/inserter, which allows the use of two types of tip.

For temperature control and other characteristics, a microprocessor is used enabling the AD 2700 to offer high productivity and the lowest cost of ownership ever

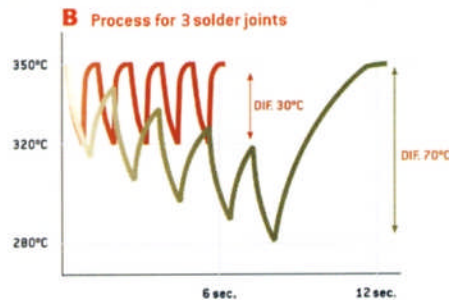
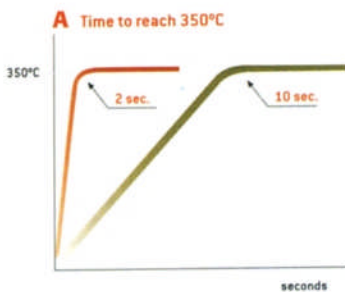
Note : The AD2700 does not allow for any hot tweezers to be connected

Specifications

- Power 75 W
- Nominal soldering iron power : 20 and 50W
- Temperature selection between 100 and 400°C
- Antistatic control box with "Skin Effect"
- Soldering handpieces 2210 or 2245 can be connected



By controlling the heat, we improve quality



A A conventional station takes between 10 to 90 sec to reach 350°C. Any Advanced station with a 2210 handpieces reaches this temp at only 2 seconds.

B The conventional station suffers a temperature drop of 70°C and the time taken is 12 sec, the Advanced station drops down only by 30°C and complete the task in only 6 secs

Digital Control Unit DI 2850 / DI 3000



Order Code: DI 2850, DI 3000

Control units featuring digital read-out for precise temperature and tool control. The single unit **DI2850 operates 1 tool** while the **dual DI 3000 controls 2 tools**

The Dual control unit DI 3000, allows you to work with one tool and have the other tool in its stand at "sleep" temperature. To switch, just place back one tool in its stand and take out the other

All soldering handpieces and hot tweezers of our Advanced range can be used with the DI 2850 and the DI 3000, always using the corresponding stand.

Includes all basic advantages and characteristics featured in the rest of our Advanced stations

Specifications

- Power 75 W
- Total peak power 140W
- Nominal soldering iron power : 20 & 50W
- Temperature selection between 90 – 450°C
- Antistatic control box with "Skin Effect"
- Weight : 2.5kg
- Soldering handpieces 2210, 2245 and/or AP 1300 and Hot Tweezers PA 1200 and/or PA 4200 can be connected

Multi-Tool System MS 9000



Order Code : MS 9000

This new system allows up to five different tools to be connected simultaneously, which could be 5 soldering irons, 5 tweezers, 2 desoldering irons, or also any other combination of these items. Allows working with up to five tools.

Modularity ensures a small footprint.

The Multi-tool system has all the advantages of the Advanced series.

The system is divided into four independent modules:

- Monitor
- Stand Block
- Desoldering Pump
- Power Supply

The MS 9000 is ideal for any job that require a variety of rework tools on one station, like the repair of cellular phones, rework in a production process, aftersales service, etc

Monitor MS 9001

Forms the to key process control. Allows interaction with the MS 9003 Stands Block and serves to read out and adjust a range of parameters like working temp., sleep temp., etc. It also allows reading out counters of total hours, sleep hours, iron changes, etc. One monitor can control any numbers of MS systems

Stand Block MS 9003

Control all the process through microprocessor. It has 5 positions for the submodules—stands of each tool.

Desoldering Pump Module

Complementary to the DR 5600 Desoldering iron. Self contain suction pump.

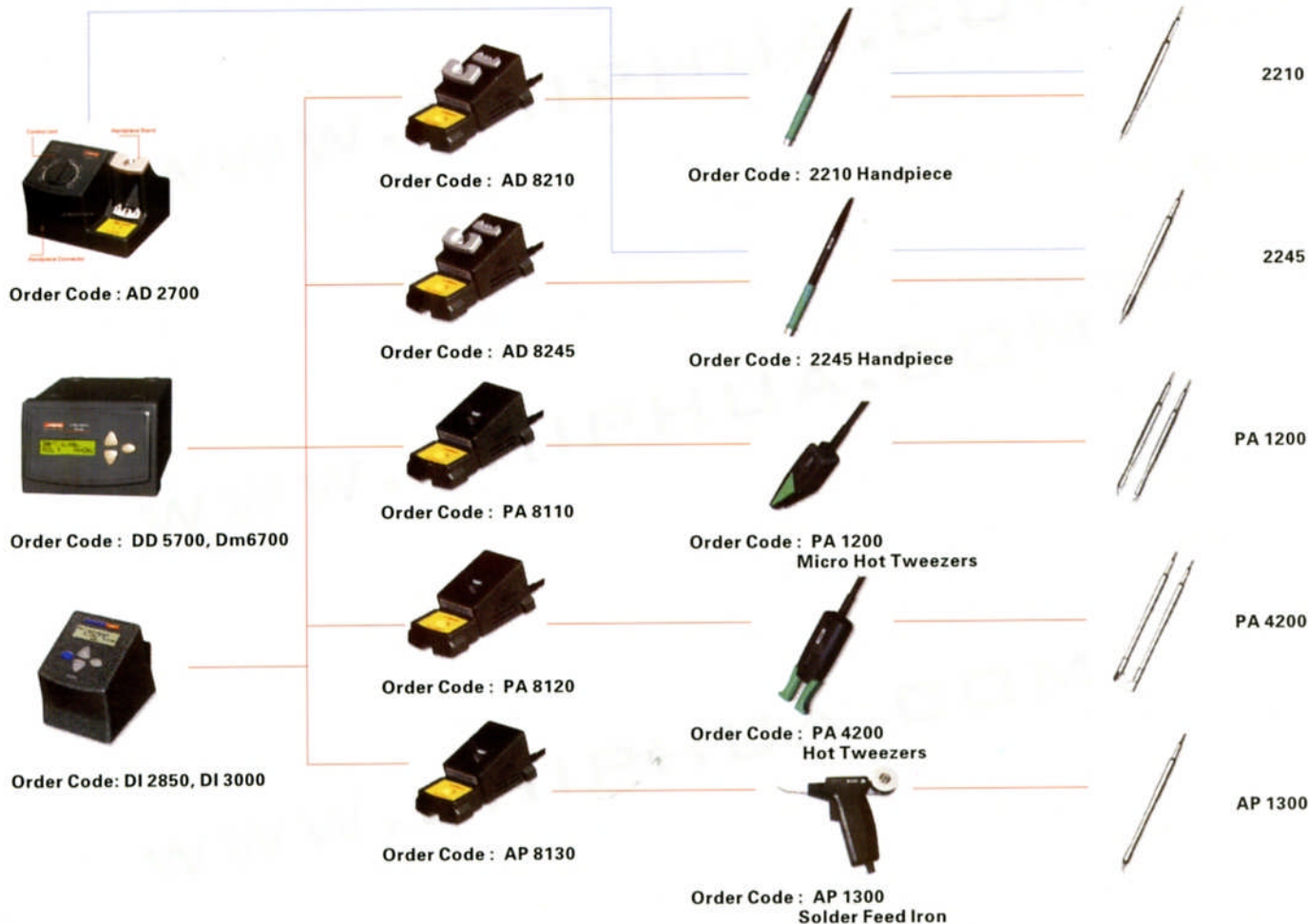
Power Supply Module MS 9002

Low voltage power supply for one MS 9003 Stand Block. Covers the power supply for up to 5 tools. It is connected to the stands block by cable, therefore allowing placement in any position, preventing it from taking up any space in the working area.



Soldering Station Configuration

In order to offer the highest flexibility and to adapt the system to the task, the Advanced series is divided into modules, control units, iron handpiece models, hot tweezers, cartridge range and independent stands, that are supplied independently, and connect as shown in the following figure:



Soldering Iron Handpieces



Order Code : 2210000



Order Code : 2245000



Order Code : 2245110



Order Code : 2245130



Order code : AP1300

2210 Handpiece

Four soldering iron models with a wide range of adaptable cartridges detailed below can be connected to the Advanced control units

- 20W • For work such as soldering involving SMDs. • To be used with 2210 cartridges

2245 Handpiece

- 50W • For generate applications in professional electronics
- To be used with respectively 2245 cartridges

2245 Comfort Handpiece (2245110)

- 50W • Neoprene grip, thermally isolating and giving more comfort to the user. Ideal for intensive soldering. • To be used with 2245 cartridges

Handpiece with Set Screw (2245130)

- 50W • The screw allows fixation of the cartridges in the handpiece. Ideal for high intensity jobs where no cartridges change is needed. • To be used with 2245 cartridges

Solder Feed Iron




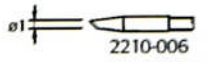

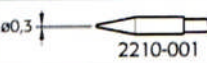
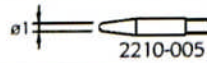



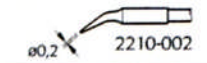
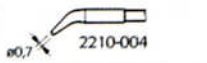
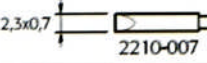
Provide a "third hand" in soldering by feeding solder wire from 0.8 to 1.2mm. Especially advantages in high volume soldering and wherever an extra hand is needed.

Can connect to any Advanced Stations except for AD2700, JT7700 and TE5400.

	2245-201
	2245-234
	2245-204
	2245-206
	2245-211
	2245-245
	2245-208






















Cartridges Range 2210


























 2210-009	 2210-003	 2210-010	 2210-006	
 2210-001	 2210-005	 2210-014	 2210-008	
 2210-013	 2210-002	 2210-004	 2210-007	

New Cartridges Range 2225

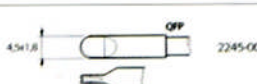


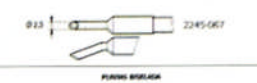



Smallest size than the 2245 cartridges and much more powerful than 2210. This range allows performing medium type tasks and accurate soldering ones. 2225 Cartridges are the same models as 2210 range, they are used in 2210 handpieces and any of our Advanced Station except AD2000 station

Cartridges Range 2245

 2245-030
 2245-037
 2245-032
 2245-036
 2245-001
 2245-201
 2245-057
 2245-003
 2245-043
 2245-033
 2245-107
 2245-029
 2245-034
 2245-234
 2245-035
 2245-004
 2245-204
 2245-259
 2245-260

 2245-062
 2245-262
 2245-063
 2245-263
 2245-046
 2245-306
 2245-005
 2245-045
 2245-245
 2245-012
 2245-212
 2245-256
 2245-051
 2245-006
 2245-205
 2245-044
 2245-007
 2245-011
 2245-211
 2245-081
 2245-261
 2245-008
 2245-208
 2245-066
 2245-266

Multi-Lead Soldering Cartridges

 2245-009	QFP
 2245-010	PLCC
 2245-085	WIRE SPOON
 2245-067	PURGING BRUSH
 2245-039	
 2245-005	
 2245-049	

CHIPS COMPONENTS

Ref.	A mm
2245-016	1.9
2245-017	2.2
2245-018	3.4
2245-019	4.5

DUAL IN LINE IC

Ref.	A mm	B mm
2245-303	5.5	6
2245-220	5.9	6
2245-230	5.9	8
2245-221	5.9	10
2245-222	7.5	12
2245-306	9.6	10
2245-305	9.6	12
2245-304	9.6	15
2245-215	9.6	18
2245-226	14.6	28.4

QFP AND PLCC

Ref.	A x B mm
2245-223	8.5 x 8.5
2245-224	12.0 x 12.0
2245-228	12.4 x 15.0
2245-227	17.5 x 17.5








FOR PLCC SOCKETS






Ref.	Nr of contact positions	A	B
2245-248	32	11.9	14.5
2245-247	44	17.0	17.0




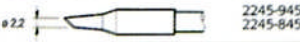
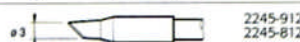


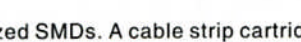
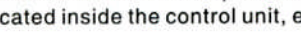
BLADE TYPE






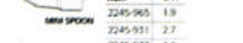


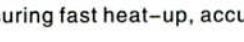
Ref.	A mm
2245-014	10
2245-013	21
2245-049	32

2245 Lead-Free

 2245-930
 2245-932
 2245-901
 2245-801
 2245-957
 2245-903
 2245-943

 2245-935
 2245-904
 2245-804
 2245-962
 2245-963

 2245-946
 2245-846
 2245-905
 2245-945
 2245-845
 2245-912
 2245-812
 2245-906
 2245-806

 2245-944
 2245-907
 2245-911
 2245-811
 2245-908
 2245-808
 2245-965
 2245-931
 2245-938

BLADE TYPE

Ref.	A mm
2245-914	10

Hot Tweezers PA 4200

Especially designed to desolder and solder small and medium sized SMDs. A cable strip cartridge is also available. Each cartridge is individually controlled by the microprocessor located inside the control unit, ensuring fast heat-up, accuracy and recovery.

Specifications

- Effective power per cartridge fitted 50W
- Weight of PA 4200 tweezers without cartridge or cable : 50g
- Supplied without cartridges
- Can be connected to any Advanced Soldering Station, except AD2700, JT7700 and TE5400

Ref.	A
2245-271	1.0
2245-272	2.5

Ref.	A
2245-273	4.0
2245-274	4.5
2245-275	6.0
2245-276	6.0
2245-277	15.0
2245-278	20.0

Ref.	A
2245-281	13 mm
2245-282	13 mm

Ref.	A
2245-283	10

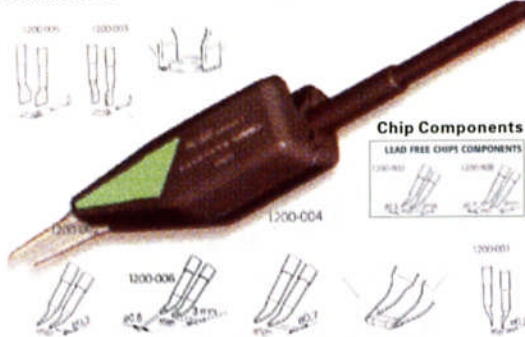


Order Code : PA 4200



Micro Hot Tweezers PA 1200

Dual In Line IC



Order Code : PA 1200

Designed to perform soldering and desoldering on SMD components, from micro-components up to medium sized ones.

Each Cartridge is individually controlled by microprocessor inside the control unit, ensuring fast heat-up, accuracy and recovery

A range of cartridges available allows desoldering of the smallest sized components.

Specifications

- Effective power per cartridge fitted 20W
- Weight of PA 1200 micro tweezers without cartridge and cable 40g
- Not Cartridges supplied
- Can be connected to any Advanced soldering station, except AD2700, JT 7700, TE5400

High Power Hot Air Station JT7700

The JT 7700 is used for desoldering all types of SMDs. Its powerful heater enables quick and safe desoldering of even the biggest QFPs and PLCCs. In addition to this it desolders small and medium sized BGA's in a very reduced time span.

Digital read-out temperature allows more precision and control tool. The system, exclusive to JBC, uses extractors/protectors and hot air, and allows desoldering in a quick, safe and clean way while protecting the surrounding components by concentrating the heat onto the IC.

A medium sized QFP, for example, can be desoldered in 20 seconds



Order Code : JT 7700 (with 5 Extractors, 5 Protectors and two tripods)

Specifications

- Air pump for hot-air with electronics control of temperature and air flow control
- Vacuum pump for holding ICs
- Power : 900W
- Temperature selection : 150 – 450°C
- Air Flow settings : 6 – 45 l/min
- Antistatic control box with skin effect
- Weight of complete system : 8.7kg
- Station Includes:
 - Protectors size from 10 x 10 mm to 17 x 17 mm
 - Extractors size from 20 x 20 mm to 33 x 33 mm

Process of desoldering an IC using JT 7700 Station



1. Fix the extractor 2. Hot-air melts the solder 3. IC is removed automatically

Station for rework and repair of through-hole and SMT boards. It contains 4 modules that cover the main rework tasks:

- **Hot air** to desolder any size of SMD component.
The station uses the exclusive JBC system, based on protectors-extractors and hot-air flow, which makes desoldering safe, clean and quick, concentrating the heat on the IC, and protecting the rest of the circuit at the same time. A medium-sized SMD can be desoldered in less than 20 secs
- **Desoldering** SMTs and cleaning through-hole components and pads by using the desoldering iron DR 5600. The unit features a self-contained vacuum pump. In lieu of the soldering iron, the PA 1200 or PA 4200 hot tweezers can also be connected
- **Pick and Place** pencil by suction to aid components positioning
- **Soldering and desoldering** of all types of components, with the swift response, high power and superb temperature recovery of the Advanced series.

It incorporates a second Sleep function that makes the station go into hibernation which means the station continues working without heating the tools. The minimum consumption state detects when a tool is picked up and it begins to heat up again

Rework Station AM 6800



Order Code : AM 6800

Apart from the standard setup as shown, any of the Advanced tools can be connected to both the soldering and soldering modules: Handpieces, desoldering iron, desoldering tweezers and solder feed iron.

In doing so, tools can be combined to set up the station to suit any specific task.

Specification

Power Out	2 x 60W	Temperature Selection Hot Air	150-455°C
Max. Power Soldering Iron	50W	Air Flow Regulation	6 - 45 l/min
Max. Power Desoldering Iron	75W	Weight of complete system	19.8kg
Power Hot Air Unit	1000W	Vacuum Pump for Holding ICs	
Temperature Selection Soldering/Desoldering Iron	90-450°C	Antistatic Control box with "skin effect"	



Precision Hot Air Station TE 5400



Order Code : TE 5400

It takes about 30 seconds to desolder a medium sized component, quick enough to prevent the substrate and component from heating up to a dangerous temperature. In combination with the unique system of extractors, it provides the safest hot air desoldering system in the market. The station has a digital temperature control feature as well as a regulated and accurate air flow, allowing desoldering SMD's safely, even on a heavily populated PCB's

Specifications

- Autonomous hot air station, digital thermo regulated with air flow control
- Power maximum out : 200W
- Temperature selection : 150–450°C and "Cool"
- Variable air flow settings between 4 and 11 l/min
- Antistatic control box with "skin effect"
- Weight of complete system 8.7kg

TE 5000 station is ideal for desoldering and soldering small and medium sized SMD's by hot-air. Its compact handpiece and selection of accessories make it the ideal tool for rework on small and dense PCB's

Digital Control Units DD 5700, DM 6700



Order Code : DD 5700 DM 6700

Control Units featuring digital read-out that allows precise temperature and tool control.

- The **single dual unit DD5700**, allows you to connect and work with **2 tools simultaneously**
- The control unit **DM 6700, 4 tools**, allows you to connect and work simultaneously with all the tools.

You can connect to the units DD and DM to all the tools of our Advance range, always using its corresponding stand, including the desoldering iron DR 5600 by adding the desoldering pump.

Include all basic advantages and characteristics featured in Advanced stations.

Specifications

- DD 5700 Power 75W + 75W
- DM 6700 Power maximum out 4 x 75W
- Total peak power 2 x 125W
- Nominal soldering iron power : 20 or 50W
- Temperature selection between 90 – 450°C
- Antistatic control box with "skin effect"

Soldering And Desoldering Station Kit DD5700



Order Code : Kit DD5700

The DD 5700 kit offers the complete solution for the fast and safe circuit repair with insertion components, for solder intake. It's also necessary for cleaning the pads in SMD circuits.

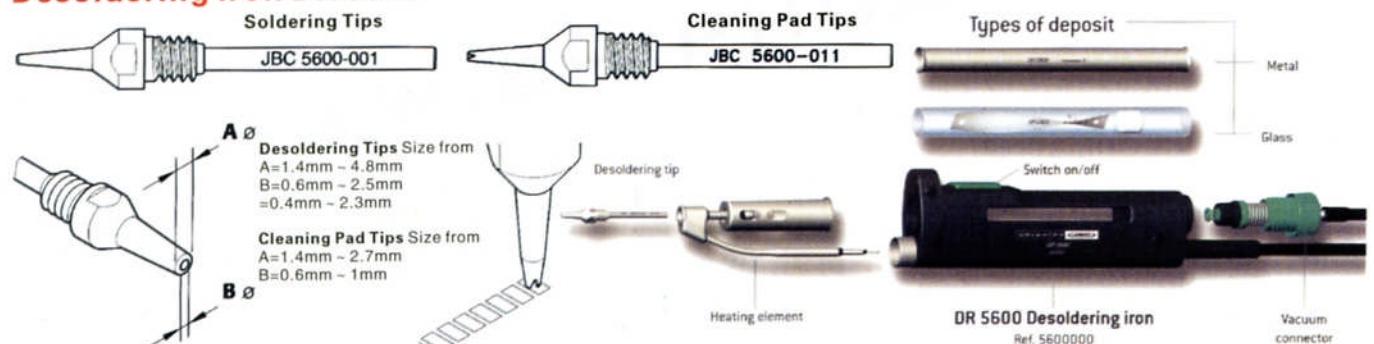
Features all the benefits from the Advanced technology, such as fast temperature recovery, the sleep mode, small dimensions, lightness and manageability of the soldering and desoldering irons.

Apart from the standard configuration, solders and desolders, this station allows the connection of any Advanced series tool in both outputs

Station Composition DD5700

- Control Unit
- 2245 handpiece with 2245-003 cartridge
- DR 5600 Desoldering Iron with 5600-003 tips
- Stands
- Set of tools accessories
- Desolder pump

Desoldering Iron DR 5600





Nile Air Cutter



Order Code : MR3



Order Code : MR5

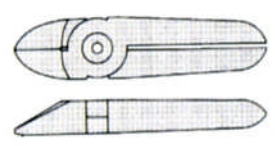


Order Code : MR10

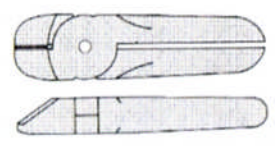
Order Code	Overall Length Weight	Diameter Air Consumption	Air Pressure Power/Midway on Blade
MR3	112mm 90g	20mmØ 35cm ³ /stroke	4-5kg/cm ² 27kg
MR5	103mm 130g	30mmØ 64cm ³ /stroke	4-5kg/cm ² 40kg
MR10	124mm 200g	36mmØ 116cm ³ /stroke	4-5kg/cm ² 60kg
MR20	140mm 340g	45mmØ 230cm ³ /stroke	5-6kg/cm ² 140kg
MR30A	176mm 520g	56mmØ 584cm ³ /stroke	5-6kg/cm ² 280kg

Blade No	Cutting Capacity mmØ		
	Copper	Steel	Plastics
S20	0.8	0.5	Blade No. F10 1.0mmØ
S2	1.0	0.5	
F1			2.0
S4	1.6	1.0	
F3			4.0
P6	2.6	2.0	
F5, FD5			7.0
P8P	3.3	2.8	
F9P, FD9P			10.0

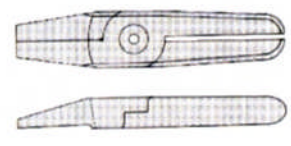
Shape of Blades



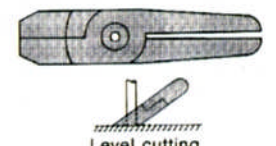
S-Type (Common Type)



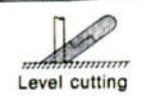
P-Type (For Heavy Job)



F-Type (For Plastic Cutting)



FD-Type (For Plastic Cutting)



Air Nipper



Order Code : VA-20

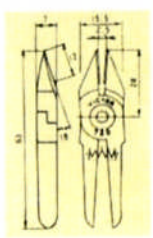
Air Pressure	4-5 kg/cm ²
Net Weight	90g
Inlet Nipple	PS 1/4
Air Consumption Operation	45cm ³
Cutting Capacity	0.8 Soft Wire 1.2 Copper Wire 1.0 Plastic



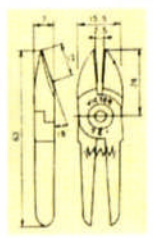
Order Code : VA-70

Air Pressure	4-5 kg/cm ²
Net Weight	120g
Inlet Nipple	PS 1/4
Air Consumption Operation	75cm ³
Cutting Capacity	1.0 Soft Wire 1.6 Copper Wire 2.0 Plastic

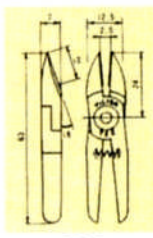
VA-20 Dimension



720

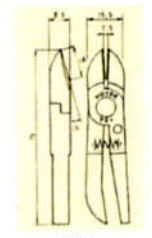


721
Copper Wire 0.8mm & below



722

VA-70 Dimension



701
Copper Wire 0.8mm & below



For Copper Wire,
Soft Wire

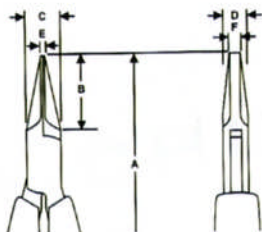


For Plastic



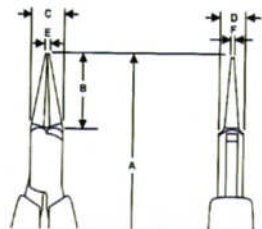
Supreme Pliers (Sweden Made)

Flat Nose Pliers



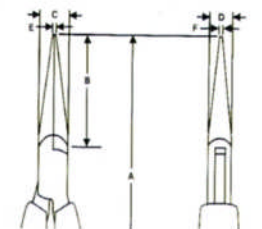
Order Code	A mm	B mm	C mm	D mm	E mm	F mm	Jaw Shape
7490	120.0	20.0	9.0	6.0	1.2	3.2	Smooth

Round Nose Pliers



Order Code	A mm	B mm	C mm	D mm	E mm	F mm	Jaw Shape
7590	120.0	20.0	9.0	6.0	1.0	Ø0.5	Very Fine

Snipe Nose Pliers



Order Code	A mm	B mm	C mm	D mm	E mm	F mm	Jaw Shape
7890	132.0	32.0	9.0	6.0	1.2	0.8	Smooth
7891	132.0	32.0	9.0	6.0	1.2	0.8	Serrated

Tweezers Sets

Titanium



Order Code : 9856

Order Code	Inclusive of
9856 Titanium	<ol style="list-style-type: none"> 1. TL 3C-TA Very Sharp Tips 2. TL 3-TA Very fine, sharp tips 3. TL 5-TA Extra fine tips 4. TL AA-TA Strong fine tips

Order Code	Inclusive of
9857 High Precision	<ol style="list-style-type: none"> 1. TL 00-SA Flat edge, strong tips 2. TL 1-SA Strong, sharp tips 3. TL 3C-SA Very sharp tips 4. TL 5-SA Extra fine tips 5. TL 7-SA Fine, curved tips

High Precision



Order Code : 9857

High Precision

Order Code	Inclusive of
9855 High Precision	<ol style="list-style-type: none"> 1. TL SS-SA Slender, long and Fine tips 2. TL AA-SA Strong fine tips 3. TL 2A-SA Flat Round tips 4. TL 4A-SA Extra fine tips 5. TL-7A-SA Strong Curved Tips

Order Code	Inclusive of
9854 High Precision	<ol style="list-style-type: none"> 1. TL 5C-SA fine, double-bent tips 2. TL 5-SA Extra fine tips 3. TL SM 101-SA Reverse action. Soldering & desoldering 8, 14 or 16 leads SMDs 4. TL SM 102-SA Reverse Action. Soldering & desoldering 20, 28, 44 and 68 LCCC & PLCC pad devices 5. TL SM 107-SA For positioning flat devices at 60°angle 6. TL SM 108-SA Grooved tips for positioning & soldering 1mm wide components 7. TL SM 115-SA Grooved Tips, 30°angle

Order Code : 9855

High Precision



Order Code : 9854



Rx Cutters & Pliers (Sweden Made)

ESD Safe Handle



Micro-Bevel

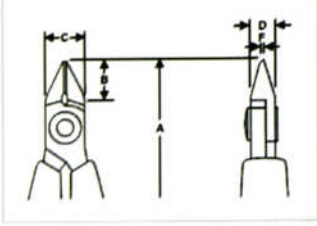


Flush



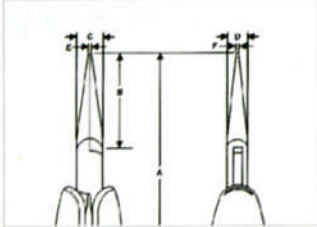
Ultra-Flush

Oval Cutters



Order Code	A mm	B mm	C mm	D mm	F mm	Capacity mm	Bevel
Rx8130	133.5	8.5	8.0	5.0	0.8	0.2-1.25	Micro
Rx8131	133.5	8.5	8.0	5.0	0.8	0.1-1.25	Flush
Rx8132	133.5	8.5	8.0	5.0	0.8	0.1-0.8	Ultra
Rx8140	135.5	10.5	10.0	6.0	0.8	0.2-1.25	Micro
Rx8141	135.5	10.5	10.0	6.0	0.8	0.1-1.25	Flush
Rx8142	135.5	10.5	10.0	6.0	0.8	0.1-1.0	Ultra
Rx8150	138.0	13.0	12.5	6.0	1.2	0.3-1.6	Micro
Rx8151	138.0	13.0	12.5	6.0	1.2	0.2-1.6	Flush
Rx8152	138.0	13.0	12.5	6.0	1.2	0.2-1.25	Ultra
Rx8160	147.0	16.0	16.0	8.0	1.6	0.4-2.0	Micro
Rx8161	147.0	16.0	16.0	8.0	1.6	0.3-2.0	Flush
Rx8162	147.0	16.0	16.0	8.0	1.6	0.3-1.6	Ultra

Snipe Nose Pliers



Order Code	A mm	B mm	C mm	D mm	E mm	F mm	Jaw Shape
Rx7890	158.5	32.0	9.0	6.0	1.2	0.8	Smooth
Rx7891	158.5	32.0	9.0	6.0	1.2	0.8	Serrated

80 Series Cutters



Micro-Bevel

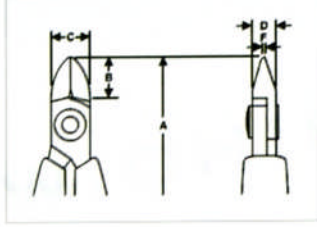


Flush



Ultra-Flush

Oval Cutters

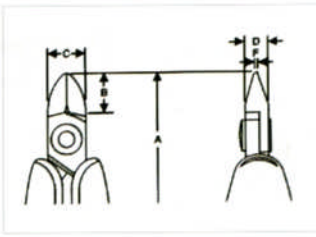
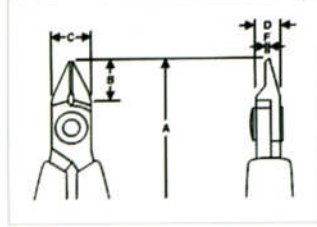


Order Code	A mm	B mm	C mm	D mm	F mm	Capacity mm	Bevel
8130	108.0	8.0	8.0	5.0	0.8	0.2-1.25	Micro
8131	108.0	8.0	8.0	5.0	0.8	0.1-1.25	Flush
8132	108.0	8.0	8.0	5.0	0.8	0.1-0.8	Ultra
8140	110.0	10.0	10.0	6.0	0.8	0.2-1.25	Micro
8141	110.0	10.0	10.0	6.0	0.8	0.1-1.25	Flush
8142	110.0	10.0	10.0	6.0	0.8	0.1-1.0	Ultra
8150	112.5	12.5	12.5	6.0	1.2	0.3-1.6	Micro
8150J	112.5	12.5	12.5	6.0	1.2	Max 0.5	Micro
8151	112.5	12.5	12.5	6.0	1.2	0.2-1.6	Flush
8152	112.5	12.5	12.5	6.0	1.2	0.2-1.25	Ultra
8160	125.0	16.0	16.0	8.0	1.6	0.4-2.0	Micro
8160J	125.0	16.0	16.0	8.0	1.6	Max 0.5	Micro
8161	125.0	16.0	16.0	8.0	1.6	0.3-2.0	Flush
8162	125.0	16.0	16.0	8.0	1.6	0.3-1.6	Ultra

Tapered Cutters

Order Code	A mm	B mm	C mm	D mm	F mm	Capacity mm	Bevel
8143	110.0	10.0	10.0	6.0	0.8	0.2-1.25	Micro
8144	110.0	10.0	10.0	6.0	0.8	0.1-1.25	Flush
8145	110.0	10.0	10.0	6.0	0.8	0.1-1.0	Ultra
8153	112.5	12.5	12.5	6.0	1.2	0.3-1.6	Micro
8154	112.5	12.5	12.5	6.0	1.2	0.2-1.6	Flush
8155	112.5	12.5	12.5	6.0	1.2	0.2-1.25	Ultra
8163	125.0	16.0	16.0	8.0	1.6	0.4-2.0	Micro
8164	125.0	16.0	16.0	8.0	1.6	0.3-2.0	Flush
8165	125.0	16.0	16.0	8.0	1.6	0.3-1.6	Ultra

Tapered and Relieved Cutters



Order Code	A mm	B mm	C mm	D mm	F mm	Capacity mm	Bevel
8146	110.0	10.0	10.0	6.0	0.8	0.2-1.0	Micro
8147	110.0	10.0	10.0	6.0	0.8	0.1-1.0	Flush
8148	110.0	10.0	10.0	6.0	0.8	0.1-0.8	Ultra
8156	112.5	12.5	12.5	6.0	1.0	0.3-1.25	Micro
8157	112.5	12.5	12.5	6.0	1.0	0.2-1.25	Flush
8158	112.5	12.5	12.5	6.0	1.0	0.2-1.0	Ultra