

# Rework & Repair Systems

## Advanced Technology and Programmability

### MBT 350

The MBT 350 is loaded with features to improve quality, increase through-put, extend tip life, and protect your process. The system is fully programmable and can be password protected from unauthorized changes. In some cases technicians become frustrated with being locked into a single temperature. The MBT 350 provides the solution! An approved operating range can be programmed allowing operators the flexibility to do their work, while eliminating the risks associated with giving techs access to the entire temperature range of the system. Operators can be given a range of 5 to 450°F (3-250°C) to operate within! When high-mass tips are required, an offset can be programmed for each of the three channels, individually.

To maximize tip life and reduce operating costs, PACE's well recognized "SetBack" and "Auto-Off" features are included. The system will automatically reduce the set temperature by 50% then turn off after a user defined period of inactivity, from 1 to 90 minutes. To really protect your more expensive tip-heater cartridge and fine point soldering tips from oxidation, the TD-100 can be used with the new "Instant-SetBack Cubby." The cubby puts the iron's channel into setback if it's in the cubby for more than 45 seconds! Up to two Instant SetBack cubbies can be connected to the MBT 350.

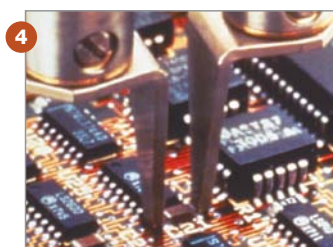
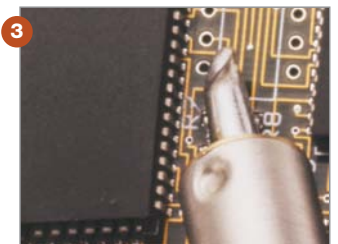
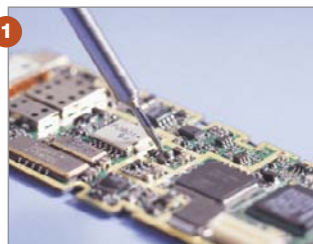
The new dual purpose vacuum/pressure pump and delivery system featuring PACE's patented SNAP-VAC Technology, provides the most vacuum available for desoldering applications. When used with an air



pencil, the high resolution, pressure control valve allows for precise adjustment when working on the smallest components such as 0201's.

The new backlit, digital, LCD screen displays the temperature of all three handpiece channels or, with scan mode activated, will cycle through the handpiece channels one at a time displaying set and actual temperatures. The backlight and character contrast on the display can be adjusted to meet individual preferences. And finally, the system can be programmed with the name of the operator or company which is displayed when the system is turned on.

- 1 TD-100 Thermo-Drive Iron
- 2 MT-100 MiniTweez
- 3 PS-90 Universal Iron
- 4 T-65 ThermoTweez
- 5 TJ-85 ThermoJet
- 6 SX-100 Sod-r-X-Tractor
- 7 TP-100 ThermoPik



# PACE Handpieces

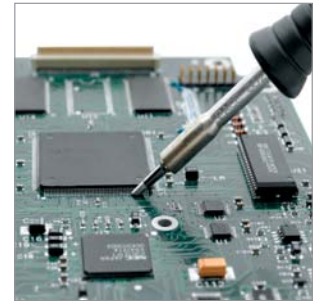


## TD-100 Thermo-Drive® Soldering Iron

The TD-100 Thermo-Drive® Soldering Iron is the only iron crafted by a team of surgical instrument engineers and is uniquely designed to eliminate operator fatigue, improve control and enhance productivity in demanding soldering applications.

### Part Numbers:

IntelliHeat® Handpiece Only: 6010-0147-P1  
IntelliHeat® Kit: 6993-0263-P1

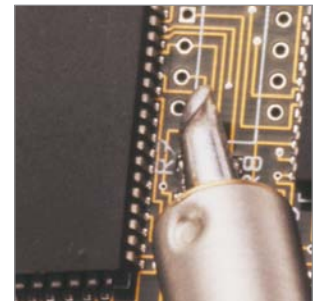


## PS-90 Universal Soldering Iron

The Universal Soldering Iron is ideal for most soldering applications and SMT rework operations where high thermal capacity and flexibility are required.

### Part Numbers:

IntelliHeat® Handpiece Only: 6010-0147-P1  
IntelliHeat® Kit: 6993-0263-P1  
SensaTemp® Handpiece Only: 6010-0131-P1  
SensaTemp® Kit: 6993-0199-P1

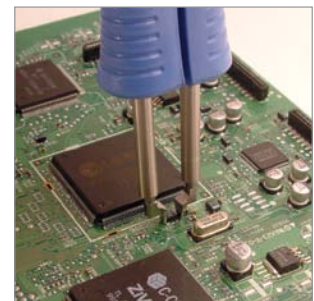


## MT-100 MiniTweez®

The only high capacity, micro tweezer on the market today features soft comfort grips, the smallest stroke available, and its tweezing action mimics the natural motion of the human hand to eliminate hand fatigue.

### Part Numbers:

IntelliHeat® Handpiece Only: 6010-0148-P1  
IntelliHeat® Kit: 6993-0264-P1



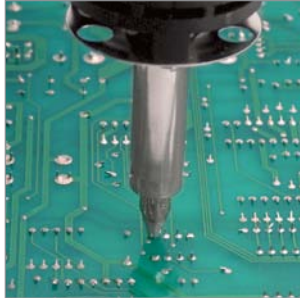
## TP-100 ThermoPik®

The newest tool for SMT component removal the TP-100. The TP-100 is designed to reflow and remove QFPs in seconds.

### Part Numbers:

IntelliHeat® Handpiece Only: 6010-0158-P1  
IntelliHeat® Kit: 6993-0280-P1



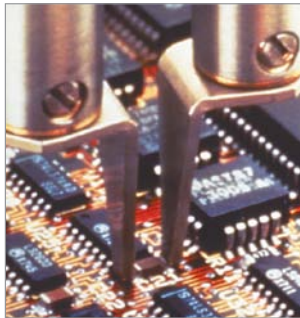


### SX-100 Sodr-X-Tractor®

The best performing, in-line, vacuum desoldering tool is ideal for Thru-Hole desoldering when fitted with SX-100 Desoldering Tips and for SMT land clean-up when fitted with SX-100 Flo-D-Sodr® Tips.

**Part Numbers:**

IntelliHeat® Handpiece Only: 6010-0149-P1  
 IntelliHeat® Kit: 6993-0266-P1  
 SensaTemp® Handpiece Only: 6010-0106-P1  
 SensaTemp® Kit: 6993-0213-P1

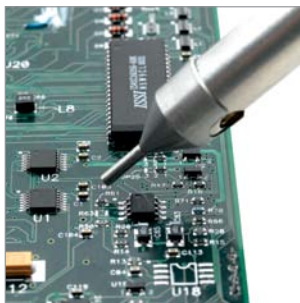


### TT-65 ThermoTweez®

The most versatile and only patented SMT removal tool provides safe, one-handed, rapid reflow and component removal of PLCCs and other 4 or 2 sided SMT components.

**Part Numbers:**

IntelliHeat® Handpiece Only: 6010-0151-P1  
 IntelliHeat® Kit: 6993-0268-P1  
 SensaTemp® Handpiece Only: 7025-0001-P1  
 SensaTemp® kit: 6993-0207-P1

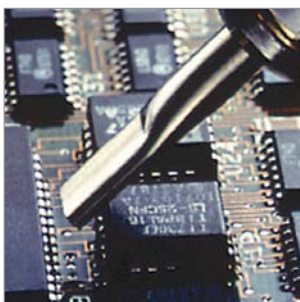


### TJ-85 ThermoJet®

When the precise application of hot air is required, our slim line air pencil is ideal for delivering heat for the installation and removal of chip components, SOTs, and SOICs.

**Part Numbers:**

IntelliHeat® Handpiece Only: 6010-0153-P1  
 IntelliHeat® Kit: 6993-0270-P1  
 SensaTemp® Handpiece Only: 6010-0142-P1  
 SensaTemp® Kit: 6993-0247-P1



### TJ-70 ThermoJet®

The TJ-70 ThermoJet® hot air pencil is ideal for delivering heat for the installation and removal of chip components, SOTs, and SOICs. A variety of quick change nozzles are available, to meet your operational needs. The TJ-70's airflow is activated with a foot pedal. This slim hot air tool is ideal for the precise application of hot air for large SMDs down to 0201s.


**Part Numbers:**

IntelliHeat® Handpiece Only: 7023-0003-P1  
 IntelliHeat® Kit: 6993-0292-P1  
 SensaTemp® Handpiece Only: 7023-0002-P1  
 SensaTemp® Kit: 6993-0206-P1



# TD-100 Standard Soldering Tips

## Tip Specifications

Tips	Description	Tip Size - L	Size - D	Part Number
	<b>1/32" Conical Sharp Extended</b>	13.4mm (0.530")	0.80mm (0.031")	1124-0001-P1
	<b>1/64" Conical Sharp</b>	7.8mm (0.310")	0.40mm (0.016")	1124-0002-P1
	<b>1/64" Conical Sharp Bent 30 Degrees</b>	7.8mm (0.310")	0.40mm (0.016")	1124-0003-P1
	<b>1/64" Conical Sharp Extended</b>	13.5mm (0.535")	0.40mm (0.016")	1124-0004-P1
	<b>13/64" Conical Sharp Extended</b>	4.7mm (0.188")	0.80mm (0.031")	1124-0005-P1
	<b>3/128" Conical</b>	4.6mm (0.184")	0.58mm (0.023")	1124-0006-P1
	<b>1/16" 90 Degree Chisel</b>	10.9mm (0.430")	2.03mm (0.080")	1124-0007-P1
	<b>3/64" 30 Degree Chisel</b>	9.7mm (0.380")	1.20mm (0.047")	1124-0008-P1
	<b>3/64" 30 Degree Bevel</b>	3.6mm (0.140")	1.20mm (0.047")	1124-0009-P1
	<b>13/64" Extra Large Chisel</b>	7.62mm (0.300")	5.15mm (0.203")	1124-0010-P1
	<b>1/64" 60 Degree Bevel</b>	14.7mm (0.580")	0.40mm (0.016")	1124-0011-P1
	<b>1/32" 30 Degree Chisel</b>	9.1mm (0.360")	0.80mm (0.031")	1124-0012-P1
	<b>3/32" 30 Degree Chisel</b>	9.9mm (0.390")	2.40mm (0.094")	1124-0013-P1
	<b>5/64" 60 Degree Chisel</b>	4.7mm (0.185")	2.00mm (0.078")	1124-0014-P1
	<b>1/64" Conical, Sharp, Bent 30 Degrees, Extended</b>	15.1mm (0.595")	0.40mm (0.016")	1124-0015-P1
	<b>3/64" Chisel Bent 30 Degrees</b>	11.7mm (0.460")	1.20mm (0.047")	1124-0016-P1
	<b>1/16" 60 Degree Chisel</b>	15.8mm (0.620")	1.60mm (0.063")	1124-0017-P1
	<b>1/32" Conical Sharp Extended</b>	16.7mm (0.660")	0.80mm (0.031")	1124-0018-P1
	<b>1/16" 30 Degree Chisel</b>	9.9mm (0.390")	1.60mm (0.063")	1124-0019-P1
	<b>1/8" 90 Degree Chisel</b>	4.8mm (0.190")	3.20mm (0.125")	1124-0020-P1
	<b>3/128" Conical Sharp Bent 30 Degrees</b>	14.4mm (0.570")	0.58mm (0.023")	1124-0021-P1
	<b>1/16" Conical Sharp</b>	9.9mm (0.390")	1.60mm (0.063")	1124-0022-P1
	<b>1/8" 90 Degree Chisel Extended</b>	8.6mm (0.340")	3.20mm (0.125")	1124-0023-P1
	<b>1/16" 30 Degree Bevel</b>	9.9mm (0.390")	1.60mm (0.063")	1124-0024-P1
	<b>1/16" Conical Sharp Extended</b>	12.1mm (0.478")	1.60mm (0.063")	1124-0025-P1
	<b>1/16" Chisel Bent 30 Degrees</b>	9.7mm (0.385")	1.60mm (0.063")	1124-0026-P1



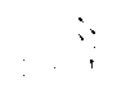
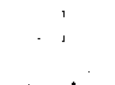
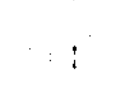

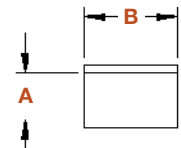
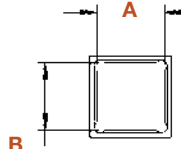
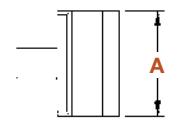
# TD-100 Standard Soldering Tips

## Tip Specifications

Tips	Description	Tip Size - L	Size - D	Part Number
	<b>3/128" Conical Sharp</b>	15.2mm (0.600")	0.58mm (0.023")	1124-0027-P1
	<b>3/64" Chisel, Bent 30 Degrees, Extended</b>	15.2mm (0.600")	0.91mm (0.36")	1124-0028-P1
	<b>1/32" 30 Degree Bevel</b>	9.1mm (0.360")	1.91mm (0.75")	1124-0029-P1
	<b>1/32" Conical Sharp</b>	9.9mm (0.390")	0.80mm (0.031")	1124-0030-P1
	<b>Heat Staking</b>	N/A	4.04mm (0.159")	1124-0031-P1
	<b>MiniWave®</b>	N/A	3.05mm (.120")	1124-0032-P1
	<b>Angled MiniWave®</b>	N/A	3.05mm (.120")	1124-0033-P1
	<b>Single Sided Chisel</b>	N/A	3.05mm (.120")	1124-0034-P1
	<b>Angled MiniWave®</b>	N/A	2.11mm (.083")	1124-0035-P1
	<b>1/128" Conical</b>	N/A	0.20mm (0.008")	1124-0036-P1
	<b>1/4 Flat Blade</b>	N/A	4.57mm (0.180")	1124-0037-P1
	<b>Single Sided Chisel, Fine Pitch</b>	N/A	1.5mm (.06")	1124-0038-P1
	<b>Angled MiniWave®, Fine Pitch</b>	N/A	1.6mm (.064")	1124-0039-P1
	<b>MicroFine Single Sided Chisel</b>	N/A	0.9mm (.035")	1124-0040-P1
	<b>MicroFine Single Sided Chisel</b>	N/A	1.1mm (.045")	1124-0041-P1
	<b>MicroFine Conical</b>	N/A	0.25mm (.01")	1124-0042-P1
	<b>MicroFine Bent Conical</b>	N/A	0.76mm (.03")	1124-0043-P1
	<b>MicroFine Bent Conical</b>	N/A	0.5mm (.02")	1124-0044-P1
	<b>Angled Micro-Wave</b>	N/A	1.1mm (.045")	1124-0045-P1
	<b>Micro-Wave</b>	N/A	1.1mm (.045")	1124-0046-P1
	<b>Angled Chisel</b>	8.4mm (0.33")	1.33mm (0.051")	1124-0047-P1
	<b>Single Sided Chisel</b>	17.00mm (0.693")	4.55mm (0.178")	1124-0048-P1
	<b>MiniWave®</b>	N/A	2.79mm (0.110")	1124-0049-P1
	<b>1/128" Conical, Special HA</b>	N/A	2.40mm (0.09")	1124-0050-P1

# TD-100 SMT Removal Tips

## Tip Specifications

Tip - Chip/SOT Removal	Component Type	Size - A	Size - B	Part Number
<b>(fig. A)</b> 	<b>Chip 0402 Angle (fig. A)</b>	2.2mm (.085")	-	1124-0518-P1
	<b>Chip 0201 Angle (fig. A)</b>	0.5mm (.02")	-	1124-0533-P1
<b>(fig. B)</b> 	<b>Chip 1808 (fig. B)</b>	5.0mm (.195")	-	1124-0520-P1
	<b>Chip 0402 (fig. C)</b>	1.0mm (.40")	-	1124-0521-P1
<b>(fig. C)</b> 	<b>Chip 0201 (fig. C)</b>	0.5mm (0.2")	-	1124-0534-P1
	<b>SOT 23 (fig. D)</b>	1.8mm (.070")	-	1124-0522-P1
<b>(fig. D)</b> 	<b>SOT 89 (fig. E)</b>	2.8mm (.110")	-	1124-0523-P1
	<b>Chip 1206 (fig. F)</b>	3.6mm (.142")	-	1124-0524-P1
	<b>Chip 0805 (fig. G)</b>	2.4mm (.095")	-	1124-0525-P1
Tip - SOIC/SOP/TSOP Removal	Component Type	Size - A	Size - B	Part Number
	<b>SOIC 14/16</b>	5.2mm (.205")	10.5mm (.415")	1124-0504-P1
	<b>SOIC 20</b>	9.6mm (.377")	13.6mm (.535")	1124-0505-P1
	<b>SOP 28</b>	10.8mm (.426")	18.6mm (.734")	1124-0506-P1
	<b>SOP 40</b>	11.9mm (.467")	25.7mm (1.011")	1124-0507-P1
	<b>SOP 44</b>	13.1mm (.516")	28.4mm (1.120")	1124-0508-P1
	<b>TSOP 56</b>	18.8mm (.739")	14.1mm (.557")	1124-0509-P1
	<b>TSOP 28</b>	12.0mm (.471")	8.5mm (.333")	1124-0510-P1
	<b>SOIC 8</b>	5.1mm (.202")	4.65mm (.183")	1124-0519-P1
	<b>TSOP 40</b>	18.8mm (.740")	10.4mm (.410")	1124-0526-P1
Tip - SOIC/SOP/TSOP Removal	Component Type	Size - A	Size - B	Part Number
	<b>PLCC 28 Socket</b>	9.3mm (.365")	9.3mm (.365")	1124-0511-P1
	<b>PLCC 32</b>	14.2mm (.561")	11.7mm (.459")	1124-0512-P1
	<b>PLCC 44</b>	16.8mm (.622")	16.8mm (.622")	1124-0513-P1
	<b>QFP 144</b>	20.6mm (.810")	20.6mm (.810")	1124-0514-P1
	<b>PLCC 28</b>	11.8mm (.465")	11.8mm (.465")	1124-0515-P1
	<b>QFP 100/128</b>	22.0mm (.865")	16.0mm (.628")	1124-0516-P1
	<b>PLCC 18</b>	7.6mm (.300")	12.8mm (.505")	1124-0528-P1
	<b>TQFP 80</b>	12.5mm (.491")	12.5mm (.491")	1124-0529-P1
	<b>PLCC 52</b>	19.4mm (.762")	19.4mm (.762")	1124-0530-P1
	<b>QFP 100</b>	26.6mm (1.048")	26.6mm (1.048")	1124-0531-P1
	<b>VQFP 100</b>	15.5mm (.610")	15.5mm (.610")	1124-0535-P1
	<b>TQFP 64</b>	15.3mm (.602")	15.3mm (.602")	1124-0537-P1
Tip - SOIC/SOP/TSOP Removal	Component Type	Size - A	Size - B	Part Number
	<b>Blade</b>	6mm (.236")	-	1124-0536-P1
	<b>Blade</b>	10.8mm (.425")	-	1124-0501-P1
	<b>Blade</b>	16.0mm (.630")	-	1124-0502-P1
	<b>Blade</b>	21.2mm (.835")	-	1124-0503-P1
	<b>Blade</b>	25.0mm (.984")	-	1124-0532-P1

# MT-100 & TP-100 SMT Removal Tips

## MT-100 Tips

Tips - Chip/SOT Removal	Component Type	Size - A	Size - B	Part Number
	Chip (fig. A)	0.2mm (.008")	0.2mm (.008")	1124-1001-P1
	Chip, SOT (fig. B)	0.7mm (.03")	0.5mm (.03")	1124-1002-P1
	Chip, SOT (fig. B)	0.7mm (.03")	1mm (.04")	1124-1003-P1
	Chip, SOT (fig. B)	0.7mm (.03")	2mm (.08")	1124-1004-P1
	Chip, SOT, TSOPS (fig. C)	0.7mm (.03")	6mm (.24")	1124-1005-P1
	Chip, SOT, TSOPS (fig. C)	0.7mm (.03")	8mm (.31")	1124-1006-P1
	Chip, SOT, TSOPS (fig. C)	0.7mm (.03")	10mm (.39")	1124-1007-P1
	Chip, SOT, TSOPS (fig. C)	0.7mm (.03")	13mm (.51")	1124-1008-P1
	Chip, SOT, TSOPS (fig. C)	0.7mm (.03")	18mm (.74")	1124-1009-P1
	Chip, SOT, TSOPS (fig. C)	0.7mm (.03")	28mm (1.09")	1124-1010-P1
	Chip Extended (fig. B)	0.6mm (.025")	1.0mm (.039")	1124-1011-P1

## TP-100 Tips







Tips	Type	Lead Count	Size - A	Size - B	Component Height	Component Footprint	Part Number
	LQFP/TQFP	80	12mm (.472")	12mm (.472")	1.4mm	2.0mm	1124-2001-P1
	LQFP/TQFP	64, 80, 100, 120, 128, 168	14mm (.551")	14mm (.551")	1.4mm	2.0mm	1124-2002-P1
	LQFP/TQFP	128, 144, 160, 176	20mm (.788")	20mm (.788")	1.4mm	2.0mm	1124-2003-P1
	LQFP/TQFP	176, 216	24mm (.945")	24mm (.945")	1.4mm	2.0mm	1224-2004-P1
	LQFP/TQFP	208, 256	28mm (1.10")	28mm (1.10")	1.4mm	2.0mm	1224-2005-P1
	QFP	52, 64, 80, 100	14mm (.551")	14mm (.551")	2.7mm	3.2mm	1124-2006-P1
	QFP	52, 64, 80, 100	14mm (.551")	14mm (.551")	2.7mm	3.9mm	1124-2007-P1
	QFP	64, 80, 100, 128	14mm (.551")	20mm (.788")	2.7mm	3.2mm	1124-2008-P1
	QFP	64, 80, 100, 128	14mm (.551")	20mm (.788")	2.7mm	3.9mm	1124-2009-P1
	QFP	120, 128, 144, 160, 208	28mm (1.10")	28mm (1.10")	3.4mm	3.9mm	1124-2010-P1
	QFP	160	28mm (1.10")	28mm (1.10")	3.4mm	3.9mm	1124-2011-P1

# SX-100/SX-90 Desoldering Tips

## Tips Selection

One of the most important aspects for successful solder removal is the selection of the proper size tip. There are several points to keep in mind.

- 1 The Inside Diameter (I.D.) of the tip must be large enough to fit over the lead, while providing sufficient room so that air and solder can be drawn through the tip.
- 2 The Outside Diameter (O.D.) of the tip must be slightly smaller than the diameter of the pad to prevent tip contact to the board laminate and minimize the possibility of damage.

Tips	Description	Diameter	Part Number
	<b>Thermo-Drive</b>	0.76mm (0.030") I.D. x 2.03mm (0.080") O.D.	1121-0930-P5
	<b>Thermo-Drive</b>	1.02mm (0.040") I.D. x 2.29mm (0.090") O.D.	1121-0931-P5
	<b>Thermo-Drive</b>	1.52mm (0.060") I.D. x 3.05mm (0.120") O.D.	1121-0932-P5
	<b>Thermo-Drive</b>	2.29mm (0.090") I.D. x 5.1mm (0.200") O.D.	1121-0933-P5
	<b>Thermo-Drive</b>	4mm (0.16") I.D. x 5.1mm (0.200") O.D.	1121-0951-P5
 	<b>Thermo-Drive, Flathead</b>	(0.050") x (0.090") I.D. x (0.110") x (0.190") O.D.	1121-0934-P5
	<b>Extended Reach Thermo-Drive</b>	0.78mm (0.030") I.D. x 2.29mm (0.090") O.D.	1121-0935-P5
	<b>Extended Reach Thermo-Drive</b>	1.02mm (0.040") I.D. x 2.54mm (0.10") O.D.	1121-0936-P5
	<b>Extended Reach Thermo-Drive</b>	1.52mm (0.060") I.D. x 3.05mm (0.120") O.D.	1121-0937-P5
	<b>ThermoMax</b>	0.76mm (0.030") I.D. x 1.91mm (0.075") O.D.	1121-0938-P5
	<b>ThermoMax</b>	1.02mm (0.040") I.D. x 2.20mm (0.085") O.D.	1121-0939-P5
	<b>ThermoMax</b>	1.52mm (0.060") I.D. x 2.69mm (0.106") O.D.	1121-0940-P5
		<b>Precision</b>	0.50mm (0.020") I.D. x 1.79mm (0.070") O.D.
<b>Precision</b>		0.76mm (0.030") I.D. x 2.03mm (0.080") O.D.	1121-0942-P5
<b>Precision</b>		1.02mm (0.040") I.D. x 2.29mm (0.090") O.D.	1121-0943-P5
<b>Precision</b>		1.52mm (0.060") I.D. x 2.79mm (0.110") O.D.	1121-0944-P5
<b>Precision</b>		0.635mm (0.025") I.D. x 1.39mm (0.055") O.D.	1121-0949-P5
<b>Precision</b>		0.635mm (0.025") I.D. x 1.14mm (0.045") O.D.	1121-0950-P5
 	<b>Flo-D-Sodr</b>	1.52mm (0.060") I.D. X 4.78mm (0.188") O.D.	1121-0945-P5
	<b>Flo-D-Sodr, Precision</b>	0.50mm (0.020") I.D. X 1.78mm (0.070") O.D.	1121-0946-P5
	<b>Flo-D-Sodr, Precision</b>	0.50mm (0.020") I.D. X 1.78mm (0.070") O.D.	1121-0947-P5
	<b>Flo-D-Sodr, Precision</b>	1.02mm (0.040") I.D. X 2.29mm (0.090") O.D.	1121-0948-P5

Not compatible with SX-70 or SX-80



# SX-100 Surface Mount Removal Pik-Tips

Tips	Description	Tip Size A X B	Part Number
	<b>TSOP-32</b>	8.1mm (0.320") x 12.7mm (0.500")	1121-0566-P1
	<b>TSOP-28</b>	8.1mm (0.320") x 19.3mm (0.760")	1121-0567-P1
	<b>TSOP-40</b>	9.9mm (0.390") x 19.3mm (0.760")	1121-0568-P1
	<b>TSOP-56</b>	14.2mm (0.560") x 19.3mm (0.760")	1121-0569-P1
	<b>TQFP-28</b>	8.2mm (0.322") x 8.23mm (0.3220")	1121-0571-P1
	<b>TQFP-32</b>	8.7mm (0.344") x 8.7mm (0.344")	1121-0572-P1
	<b>TQFP-52</b>	12mm (0.472") x 12mm (0.472")	1121-0573-P1
	<b>TQFP-40</b>	12mm (0.472") x 12mm (0.472")	1121-0574-P1
	<b>TQFP-80</b>	13.2mm (0.520") x 13.2mm (0.520")	1121-0575-P1
	<b>TQFP-80/100</b>	15.3mm (0.604") x 15.3mm (0.604")	1121-0576-P1
	<b>PQFP-80/100</b>	16.8mm (0.660") x 22.9mm (0.900")	1121-0603-P1
	<b>TQFP-144</b>	21.6mm (0.850") x 21.6mm (0.850")	1121-0604-P1
	<b>TQFP-112</b>	22.1mm (0.870") x 22.3mm (0.870")	1121-0605-P1