

# Support Products and Consumables

**PAGE**<sup>®</sup>

[www.paceworldwide.com](http://www.paceworldwide.com)

Part #5400-0107 Rev. 6/01

## **A Worldwide Commitment**

With offices worldwide, PACE, Inc. is a recognized world leader in the development of solutions for the assembly and repair of highly advanced electronics. Our expertise extends back to the dawn of the modern electronics industry. In 1958, PACE introduced training programs for the repair of the printed wire assemblies, and soon after, revolutionized the industry by creating the first self-contained vacuum desoldering system.

Today, PACE continues to provide innovative solutions, products and training for the rework, repair and testing of printed circuit assemblies. Our unique capabilities and evolving vision have provided universal solutions to thru-hole and surface mount assembly and rework problems for the most advanced electronics.

Additionally, PACE manufactures Fume Extraction systems to reduce exposure to harmful particulates and gases created from hand soldering operations. PACE Fume Extraction systems effectively remove these contaminants from the worker's breathing zone thereby reducing or eliminating health risks.

Our strong commitment and history of achievement have resulted in an unparalleled range of Assembly, Repair and Fume Extraction solutions to meet your needs whether working to ISO-9000, industrial, military or your own internal specifications. Whatever the challenge, PACE stands ready to set a new standard for you.

**PACE**<sup>®</sup>

[www.paceworldwide.com](http://www.paceworldwide.com)

# PAGE<sup>®</sup>

The following are registered trademarks and/or servicemarks of PACE Incorporated, Laurel Maryland U.S.A. and may only be used to identify genuine PACE products or services:

Arm-Evac, Mini-Wave, SensaTemp, Snap-Vac, Sodr-X-Tractor, Sodrtek, ThermoFlo, ThermoJet, ThermoTweez, ToolNet and Visifilter.



**EOS/ESD SAFE**

**PACE USA**  
9893 Brewers Court  
Laurel, MD 20723 U.S.A.  
Tel: (301) 490-9860  
1-888-535-PACE (7223)  
Fax: (301) 498-3252

**PACE EUROPE**  
Sherbourne House,  
Sherbourne Drive  
Tilbrook, Milton Keynes, MK7 8HX  
United Kingdom  
Tel: (44) 01908 277666  
Fax: (44) 01908 277777

**PAGE<sup>®</sup>**  
[www.paceworldwide.com](http://www.paceworldwide.com)

© 2001 PACE Inc., Laurel Maryland  
All Rights Reserved. Printed in the U.S.A.

## Table of Contents

### Systems

ST Systems Optional & Replacement Parts	2
Accessories for SensaTemp Systems	3
VF 90 System Replacement Parts	4
VF 100 System Replacement Parts	4
MBT 201/MBT 101 Optional & Replacement Parts	5
MBT 250 Optional & Replacement Parts	6
PRC 2000 Optional & Replacement Parts	7
TF 200/500/700 Optional & Replacement Parts (includes Nozzles)	8

### Handpieces

PS-80/IR-70 Replacement Parts	11
SX-80 Replacement Parts	11
SX-70 Replacement Parts	12
SX-70/65A/55A/55 (60 Watt) 40A Replacement Parts	13
SX-65/55A/55 (60 Watt) 40A Replacement Parts	14
SX-25/20 Replacement Parts	14
SP-2A Replacement Parts	15
SP-1A Replacement Parts	15
TT-65 Replacement Parts	15
TP-65 Replacement Parts	15
DTP-80 Replacement Parts	15
TJ-70 Replacement Parts	15
SMR Handpieces & Replacement Parts	16
MicroChine Handpiece & Replacement Parts	17
PV-65 Pic-Vac Vacuum Wand	17
Accessories for SensaTemp and Non-SensaTemp Handpieces	18

### Tips

PS-80/IR-70 Soldering Tips	19
SP-1A Soldering Tips	22
SX-80 Endura Desoldering Tips	23
SX-70 Desoldering Tips	23
SX 80/70 Pik Tips	24
SX-65A/55A/55 (60 Watt) 40A Desoldering Tips	24
SX-25/20 Desoldering Tips	24
TT-65 ThermoTweez Tips	25
TP-65 ThermoPik Tips	28
DTP-80 ThermoPik Tips	28
TJ-70 ThermoJet Tips	29
PACE Tip Kits	30

### Support Products

HS 200 HeatWave	32
HS 300 Pre-Heater	32
Process Monitor	33
PS 10 Prep Set	34
PS 50 Prep Set	34
PS 100 Programmable Solder Bath	34
ThermoBond Cir-Kits	35
ThermoBond Replacement Tips	38
Non-ThermoBond Cir-Kits	39
Eyelets & Funnelets	40
Component Stenciling Kits	41
BGA Reballer Kits	43

### Training

Course Descriptions	44
Training Kits and Aides	46

# SensaTemp Systems



## Optional Items and Replacement Parts

### ST Series Systems / Optional Items

DESCRIPTION	PART NUMBERS
Tip & Tool Stand Tip Redi-Rak (for tip storage)	6021-0008-P1
Cord Retention System (ST 20A/E and ST 40A/E Systems only)	6018-0090
Tip Holder (fits ST 20E/40E/60E Stations only)	1500-0012
Tip Maintenance Station (with fiber tool and sponge tool)	6993-0138
Temperature Limiting Kit (For ST 20E/ST 60E only)	6993-0178
Tip and Temperature Selection System Holder	1257-0186-P1
Tip and Temperature Selection System (Charts only)	5050-0251

### ST Series Systems / Replacement Parts

DESCRIPTION	PART NUMBERS
Power Cord (Domestic Systems only)	1332-0094-P1
Fuse, 1.0A Timelag (Domestic Systems only)	1159-0246-P5
Fuse, 0.5A Time Lag (Export Systems only)	1159-0213-P5
Fiber Cleaning Tool for Surface Mount Tips	1100-0232
Replacement Fiber Filler (for Fiber Cleaning Tool)	1127-0013-P2
Sponge Cleaning Tool for Surface Mount Tips	1100-0233
Replacement Sponge Filler (for Sponge Cleaning Tool)	4021-0006-P5
Sponges for Tip Maintenance Station	4021-0007-P7
Replacement Sponges for Tip & Tool Stands (SX, PS, SP)	4021-0008-P3
Case, Top (ST 20/20E, 40/40E, 60/60E)	1313-0160-P1
Case, Bottom (ST 20/20E, 40/40E, 60/60E)	1313-0161-P1
Control Knob (ST 20E/60E)	1222-0092-P1
Control Knob Bushing (ST 20E/60E)	1251-0081-P1
Solenoid/Venturi Kit (ST 60E)	6993-0187
Venturi Assembly with Muffler (ST 60E)	1338-0071
Hex Nut (Solenoid/Venturi Kit (ST 60E)	1348-0575-P1
Fitting 1/8" Bulk Head	1259-0099-P1
Fuse, 0.63A Time Lag (ST 105E and ST 105PE)	1159-0252-P1
Portability Kit:	6018-0109-P1
Lower Container, Upper Container, Tray Holder, Clip Handle Assembly, Tool Kit, Cubby Assembly	
Case Top (ST 25/25E, 45/45E, 65/65E, 85/85E)	1313-0145-P1
Case Bottom (ST 25/25E, 45/45E, 65/65E, 85/85E)	1313-0145-P1
Control Knob (ST 25/25E, 65/65E, 75/75E)	1222-0109-P1
PCB (ST 25/25E)	6020-0120-P1
PCB (ST 45/45E)	6020-0123-P1
PCB (ST 65/65E)	6020-0125-P1
PCB (ST 75/75E)	6020-0129-P1
PCB (ST 85/85E)	6020-0127-P1
PCB (ST 115/115E)	6020-0124-P1

# SensaTemp Systems

## ST System Accessories



### ST System Accessories

DESCRIPTION	PART NUMBERS
PS Tip & Tool Stand (holds one PS-80 Handpiece)	6019-0050-P1
SX Tip & Tool Stand (holds one TJ-70, TP-65, or SX-70 Handpiece)	6019-0055-P1
SX-80 Tip & Tool Stand	6019-0060-P1
TT Tip & Tool Stand (holds one TT-65 Handpiece)	6019-0056-P1
DTP Tip & Tool Stand (holds one DTP-80 Handpiece)	6019-0057-P1
Sponges for Tip & Tool Stands (SensaTemp Handpieces)	4021-0008-P3
Solder Catcher for any Tip & Tool Stand	1312-0008-P1
Tip and Temperature Selection System (charts only)	5050-0251
Tip and Temperature Selection System Holder	1257-0186-P1
Tip Maintenance Station (with Fiber Tool and Sponge Tool)	6993-0138
Fiber Cleaning Tool for Surface Mount Tips	1100-0232
Replacement Fiber Filler (for Fiber Cleaning Tool)	1127-0013-P2
Sponge Cleaning Tool for Surface Mount Tips	1100-0233
Replacement Sponge Filler (for Sponge Cleaning Tool)	4021-0006-P5
Sponges for Tip Maintenance Station	4021-0007-P7
Tip Tool	1100-0206
Tip and Vacuum Cup Tool	1100-0239
Tip & Tool Stand Tip Redi-Rak (for tip storage)	6021-0008-P1
Tip Alignment Tool for ThermoTweez Handpiece	1100-0234
Tip Redi-Rak	6021-0007
Sodr-X-Tractor Tip Cleaning Kit	6993-0200
Thermal Insulative Handpiece Sleeve (fits one SX-70, TJ-70, TP-65)	1346-0065
Wire Brush 4.76mm (3/16"), Package of 5	1127-0014-P5
Wire Brush 3.18mm (1/8"), Package of 5	1127-0006-P5
Bristle Brush, Package of 5	1127-0002-P5
Set Screw for any SensaTemp Handpiece, Package of 10	1348-0547-P10
PACE Screwdriver	1100-0230

## VF 90 / VF 100 Systems



### Optional Items and Replacement Parts



#### VF 90 Vac-U-Flo System / Replacement Parts

DESCRIPTION	PART NUMBERS	DESCRIPTION	PART NUMBERS
VF 90	8007-0354	Small Oval Nozzle	6800-0030-P1
VF 90E	8007-0355	Medium Oval Nozzle	6800-0031-P1
Condensor and Filter	6800-0001-P1	Filter Set for Handtool	6800-0032-P1
Felt Filter (Set of 10)	6800-0002-P1	Vacuum Generator	6800-0033-P1
Foam Filter (Set of 10)	6800-0003-P1	Fuse Domestic, 3.15A Fast Acting	6800-0034-P1
End Cap Assembly (Standard)	6800-0004-P1	Fuse Export, 1.6A Fast Acting	6800-0035-P1
High Performance Filter Assembly	6800-0005-P1	Tip Wrench	6800-0036-P1
Mica-Sheets (set of 12)	6800-0006-P1	Cleaning Tool	6800-0037-P1
O-Ring set of Valve Assembly	6800-0007-P1	Silicone Washer	6800-0038-P1
O-Ring for Heater Bushing End Cap	6800-0008-P1	O-Ring Lube	6800-0040-P1
Retaining Sleeve	6800-0009-P1	Hot Tube	6800-0041-P1
Solder Cone	6800-0011-P1	Meter	6800-0042-P1
Heating Element for Tip Heater	6800-0012-P1	Thermocouple 1	6800-0043-P1
Poppet and O-Ring	6800-0013-P1	Thermocouple 2	6800-0044-P1
Spring	6800-0014-P1	Thermoprobe 1	6800-0045-P1
End Cap for Filter	6800-0015-P1	Thermoprobe 2	6800-0046-P1
Valve Assembly	6800-0016-P1	Plastic Housing	6800-0047-P1
Transformer	6800-0017-P1	Foam Cylinder	6800-0048-P1
Flux Condensor for Cooling Fan	6800-0019-P1	End Cap Assembly	6800-0049-P1
Heating Element for Hot Gas	6800-0020-P1	Silencer	6800-0050-P1
Circuit Board for Cooling Fan	6800-0021-P1	O-Ring for Elbow Connector Cap	6800-0051-P1
Solenoid Valve	6800-0022-P1	Barrel, Filter Housing	6800-0052-P1
Fan Assembly	6800-0023-P1	Computer Aid Adjustment Tool	6800-0054-P1
Circuit Board for Left (hot-gas) Side	6800-0024-P1	VF-90 Maintenance Tool	6800-0055-P1
Circuit Board for Right (tip) Side	6800-0025-P1	Dual Open End Wrench 6.35mm & 7.94mm (1/4" & 5/16")	6800-0056-P1
Handpiece Tool (VF 90)	6800-0026-P1	Tip Cleaning Shaft (0.025 diameter)	6800-0057-P1
Standard Nozzle (tip)	6800-0027-P1	Air Hoses (2)	6800-0058-P1
Focus Nozzle	6800-0028-P1	End Cap O-Ring	6800-0059
Long Reach Needle Nozzle	6800-0029-P1		
<b>Replacement Parts for the VF 100 System</b>			
DESCRIPTION	PART NUMBERS	DESCRIPTION	PART NUMBERS
VF 100	8007-0356-P1	VF 100 "S" Filter	6700-0004-P1
VF 100E	8007-0357-P1	VF 100 Standard Tip	6700-0005-P1
VF 100 Heater	6700-0001-P1	VF 100 Slim Tip	6700-0006-P1
VF 100 Filter Cartridge	6700-0002-P1	VF 100 Pump Assembly	6700-0007-P1
VF 100 Filter (set of five)	6700-0003-P1		

# MBT Systems

## Optional Items and Replacement Parts



### MBT 201 / Optional Items

DESCRIPTION	PART NUMBERS
Foot Pedal	6008-0115-P1
Tip & Tool Stand Tip Redi-Rak	6021-0008-P1
Temperature Limiting Kit	6993-0117
Tip Maintenance Station	6993-0138
Service Manual	5050-0340
Tip and Vacuum Cup Tool	1100-0239
Tip and Temperature Selection System (chart booklet only)	5050-0251
Tip and Temperature Selection System Holder	1257-0186-P1

### MBT 201 and MBT 101 / Replacement Parts

DESCRIPTION	PART NUMBERS
Motor Pump Assembly Kit (MBT 201/201E or 101/101E)	6993-0188
Motor Pump Rebuild Kit	6993-0190-P1
Motor Pump Filter	1309-0020-P1
Fuse, 0.63 Amp Slo-Blo (MBT 201 Export Systems only)	1159-0214-P5
Fuse, 1.25 Amp Slo-Blo (MBT 201 Domestic Systems only)	1159-0217-P5
Power Cord (MBT 201 Domestic Systems only)	1332-0094-P1
Power Cord (MBT 201 Export Systems only)	1332-0093-P1
Fiber Cleaning Tool for Surface Mount Tips	1100-0232
Replacement Fiber Filler (for Fiber Cleaning Tool)	1127-0013-P2
Sponge Cleaning Tool for Surface Mount Tips	1100-0233
Replacement Sponge Filler (for Sponge Cleaning Tool)	4021-0006-P5
Replacement Sponges for Tip & Tool Stand (SX, PS, SP)	4021-0008-P3
Sponges for Tip Maintenance Station	4021-0007-P7
Main Power Switch (Units purchased before 8/00)	1157-0052
Main Power Switch (Units purchased before 8/00)	1157-0081-P1
Air Pressure Control Valve Assembly	1222-0081-P1
Vacuum, Panel Mount	1259-0085-P1
Quick-Disconnect Insert, Male	1259-0087-P1
Quick-Disconnect Receptacle, Female	1259-0086-P1
Vacuum Tubing, Black Silicon 1370mm (54")	1342-0015-08
Printed Circuit Board (MBT 201/201E)	6020-0061-P1
Printed Circuit Board (MBT 101/101E)	6020-0076-P1
Printed Circuit Board (MBT 201A/201AE)	6020-0090-P1
Printed Circuit Board (MBT 101A/101AE)	6020-0089-P1
Cord Retention System	6018-0083



# MBT Systems



## Optional Items and Replacement Parts

### MBT 250 and MBT 220 / Optional Items

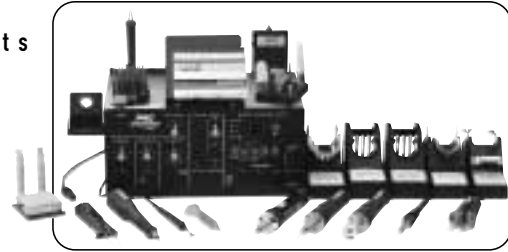
DESCRIPTION	PART NUMBERS
Temperature Calibration/Set Key Lock	1273-0008-P1
Calibration Kit	6993-0133
Foot Pedal	6008-0115-P1
Consumable Kit, One-Year	6550-0019
Power Source Interlock Kit	6993-0141-P1
Tip & Tool Stand Redi-Rak	6021-0008-P1
Tip Maintenance Station	6993-0138
Tip and Vacuum Cup Tool	1100-0239
Service Manual	5050-0352
Tip and Temperature Selection System Holder	1257-0186-P1

### MBT 250 and MBT 220 / Replacement Parts

DESCRIPTION	PART NUMBERS
Motor Pump Assembly Kit (MBT 250/250E, 220/220E)	6993-0188
Motor Pump Rebuild Kit	6993-0190-P1
Motor Pump Filter	1309-0020-P1
Power Cord (MBT 250 Domestic Systems only)	1332-0094-P1
Power Cord (MBT 250 Export Systems only)	1332-0093-P1
Fuse, 2.0A Slo-Blo (MBT 250 Domestic Systems only)	1159-0247-P5
Fuse, 1.25A Slo-Blo (MBT 250 Export Systems only)	1159-0217-P5
Fiber Cleaning Tool for Surface Mount Tips	1100-0232
Replacement Fiber Filler (for Fiber Cleaning Tool)	1127-0013-P2
Sponge Cleaning Tool for Surface Mount Tips	1100-0233
Replacement Sponge Filler (for Sponge Cleaning Tool)	4021-0006-P5
Replacement Sponges for Tip & Tool Stand (SX, PS, SP)	4021-0008-P3
Sponges for Tip Maintenance Station	4021-0007-P7
Quick-Disconnect Insert (Male)	1259-0087-P1
Quick-Disconnect Receptacle (Female)	1259-0086-P1
Vacuum Tubing, black silicon 1370mm (54")	1342-0015-08
Cable Marker Kit (Colored Tabs for hose/cord identification)	6993-0136-P1
Air Pressure Control Valve Assembly	1222-0081-P1
Vacuum, Panel Mount	1259-0085-P1
Main Power Switch	1157-0052
Printed Circuit Board (MBT 250/250E)	6020-0064-P1
Printed Circuit Board (MBT 250/250E)	6020-0091-P1
Display Printed Circuit Board	6020-0063-P1
Tip and Temperature Selection System (charts only)	5050-0251

# PRC Systems

## Optional Items and Replacement Parts



### PRC 2000 / Optional Items

DESCRIPTION	PART NUMBERS
Tip Redi-Rak	6021-0007-P1
Tip & Tool Stand Tip Redi-Rak (included with Standard Version)	6021-0008-P1
Tip and Vacuum Cup Tool	1100-0239
Cushion Grip Kit for ThermoTweez Handpiece (requires a 6019-0046 TT Tip & Tool Stand)	6993-0184
One Year Consumables Kit	6550-0020
Service Manual	5050-0344-P1
Auto Snap Vac Kit	6993-0193
Plating Accessory Kit, PE211 (chemicals not included)	6993-0186
Tip and Temperature Selection System (charts only)	5050-0251

### PRC 2000 / Replacement Parts

DESCRIPTION	PART NUMBERS
Motor Pump Assembly Kit (for desoldering function)	6993-0188
Pump Rebuild Kit (for desoldering function)	6993-0190-P1
Micro Pump Assembly (for Paste Dispenser)	1336-0027-P1
Low Pressure Pik Pump Assembly	1334-0021
Power Cord (PRC 2000 Domestic Systems only)	1332-0094-P1
Power Cord (PRC 2000 Export Systems only)	1332-0093-P1
Fuse, 5.0 Amp, Time Lag (PRC 2000 Domestic Systems only)	1159-0253-P5
Fuse, 2.5 Amp, Time Lag (PRC 2000 Export Systems only)	1159-0220-P5
Fuse, 12.0 Amp, (PRC 2000 Domestic and Export Systems)	1159-0257-P5
Air Pressure Control Valve Assembly	1222-0081-P1
Vacuum, Panel Mount	1259-0085-P1
Main Power Switch	1157-0052
Fiber Cleaning Tool for Surface Mount Tips	1100-0232
Replacement Fiber Filler (for Fiber Cleaning Tool)	1127-0013-P2
Sponge Cleaning Tool for Surface Mount Tips	1100-0233
Replacement Sponge Filler (for Sponge Cleaning Tool)	4021-0006-P5
Replacement Sponges for Tip & Tool Stand (SX, PS, SP)	4021-0008-P3
Sponges for Tip Maintenance Station	4021-0007-P7
Quick-Disconnect Insert (Male)	1259-0087-P1
Quick-Disconnect Receptacle (Female)	1259-0086-P1
Paste Dispense Tubing, Clear PVC 915mm (36")	1325-0003-10
Vacuum Tubing, Black Silicon 1370mm (54")	1342-0015-08
Cable Marker Kit (colored tabs for hose/cord identification)	6993-0136-P1
Paste Dispenser Cubby	6019-0038-P1
Accessory Kit for Paste Dispenser	6993-0152-P1
Vacuum Cups for Pik-Vac Wand	6993-0154-P1
PCB Assembly, Microprocessor, PPS-400/E	6020-0072-P1
PCB, Display, PPS-400/E	6020-0073-P1
PCB, Multifunction, PPS-400/E	6020-0074-P1
Pressure Reservoir	1140-0034-P1
Foot Pedal MBT/PRC	6008-0115-P1

# ThermoFlo Systems



## Optional Items and Replacement Parts

### TF 200, TF 500, TF 700 / Optional Items

DESCRIPTION	PART NUMBERS
Fume Extraction "Ready" Attachment (Flex Hose and Central Filtration Unit sold separately)	6018-0105
Large Board Holder	6018-0095
Fiber Optic Lighting Attachment (Domestic System only)	6018-0100
Fiber Optic Lighting Attachment (Export System only)	6018-0101
Lens Vision Attachment, magnification (2x)	6018-0104
Camera Vision Attachment (Domestic System only NTSC)	6018-0102
Camera Vision Attachment (Export Systems only PAL)	6018-0103
TF 500 Work Platform	6018-0099-P1
Swivel Ring (for handpiece)	1321-0320
TF 700 Advanced Placement Platform	6018-0110-P1
Nozzle Holder	1321-0387-P1

### TF 200, TF 500, TF 700 / Replacement Parts


DESCRIPTION	PART NUMBERS
Power Switch	1157-0052
AC Power Receptacle	1207-0204
Rubber Bumper (foot)	1274-0021-P4
Heater Assembly (Domestic Systems only)	6010-0091-P1
ThermoFlo Handpiece Assembly (Domestic Systems only)	6010-0093-P1
Power Cord (Domestic Systems only)	1332-0094-P1
Power Cord (Export Systems only)	1332-0093-P1
Flowpump Assembly, PPS-95	1336-0035-P1
Blower Assembly, PPS-95	6008-0145-P1
Vacuum Pik Tube Kit	6993-0198
PCB Assembly, Main PPS-95	6020-0097-P1
PCB Assembly, HV Module PPS-95	6020-0115-P1
PCB Assembly, Display PPS-95	6020-0099-P1
Accessory Manual	5050-0421
Operation and Maintenance Manual	5050-0420
Vacuum Cup Kit	6993-0196-P1
Vacuum Cup, Individual, 15.88mm (0.625") diameter	1121-0280-P2
Vacuum Cup, Individual, 10.16mm (0.400") diameter	1121-0281-P2
Vacuum Cup, Individual, 7.94mm (0.312") diameter	1121-0282-P2
Vacuum Cup, Individual, 4.95mm (0.195") diameter	1121-0382-P2
Vacuum Cup, Individual, 7.62mm (0.300") diameter	1121-0383-P2
Vacuum Cup, Individual, 12.70mm (0.500") diameter	1121-0384-P2
Mounting Plate, Heater Unit	1335-0184
Heatwave Interface Cable	1332-0187
Heater 230V S/N 03-99-9999 or Below	6010-0092
Heater 230V S/N 04-00-0001 or Above	6010-0122-P1
Handpiece Assembly 230V S/N 03-99-9999 or Below	6010-0094-P1
Handpiece Assembly 230V S/N 04-00-0000 or Above	6010-0123-P1

# Nozzles

## Standard ThermoFlo Nozzles

Listed below are nozzles available from PACE. Custom nozzles can be designed and manufactured for special or non-standard applications. For more information, contact PACE.





### Standard Nozzles

BGA NOZZLES	COMPONENT	BGA SIZE (NOMINAL)	PART NUMBERS	ALIGNMENT/TEMPLATES
	BGA-204/225/256/ 272/292/320/324	27mm x 27mm (1.1" x 1.1")	4028-5001	3018-0057-002 3018-0057-003
	BGA-169/168	23mm x 23mm (0.91" x 0.91")	4028-5002	3018-0057-001
	BGA-313/352	35mm x 35mm (1.38" x 1.38")	4028-5003	3018-0057-004 3018-0057-023
	BGA-144	13mm x 13mm (0.51" x 0.51")	4028-5004	3018-0057-009
	BGA-121/196	15mm x 15mm (0.59" x 0.59")	4028-5005	3018-0057-010
	BGA-86	16.25mm x 17.75mm (0.64" x 0.70")	4028-5006	3018-0057-013
	BGA-68	13.45mm x 14.97mm (0.53" x 0.59")	4028-5007	3018-0057-014
	BGA-32	10.42mm x 10.42mm (0.41" x 0.41")	4028-5008	3018-0057-015
	BGA-40/44	11.97mm x 13.21mm (0.47" x 0.52")	4028-5009	3018-0057-016 3018-0057-017
	BGA-18	8.64mm x 8.90mm (0.34" x 0.35")	4028-5010	3018-0057-018
	BGA-292/357/361	25mm x 25mm (0.99" x 0.99")	4028-5011	3018-0057-019 3018-0057-007
	BGA-421/432/736	40mm x 40mm (1.57" x 1.57")	4028-5012	3018-0057-020
	BGA-560	42.5mm x 42.5mm (1.67" x 1.67")	4028-5013	3018-0057-021
	BGA-240/304/432	31mm x 31mm (1.22" x 1.22")	4028-5014	3018-0057-024 3018-0057-025
	BGA-256	17mm x 17mm (0.67" x 0.67")	4028-5015	3018-0057-026
	BGA-252/255/256	21mm x 21mm (0.83" x 0.83")	4028-5016	3018-0057-027
	BGA-479/493/584	37.5mm x 37.5mm (1.48" x 1.48")	4028-5018	3018-0057-030
	BGA-96/121	19mm x 19mm (0.75" x 0.75")	4028-5019	3018-0057-031 3018-0057-032
	BGA-240/324	32mm x 32mm (1.26" x 1.26")	4028-5020	3018-0057-033 3018-0057-034
	BGA-256/400	29mm x 29mm (1.14" x 1.14")	4028-5021	3018-0057-035 3018-0057-036
	BGA-100	16mm x 16mm (0.63" x 0.63")	4028-5022	3018-0057-037
	BGA-119	22mm x 14mm (0.87" x 0.55")	4028-5023	3018-0057-029
	BGA-169	19.25mm x 19.25mm (0.76" x 0.76")	4028-5024	3018-0057-039
	BGA-196	18.5mm x 18.5mm (0.73" x 0.73")	4028-5025	3018-0057-038
	BGA-240	26.4mm x 26.4mm (1.04" x 1.04")	4028-5026	3018-0057-040
	BGA-256	30mm x 30mm (1.18" x 1.18")	4028-5027	3018-0057-024
	BGA-475	25mm x 32.3mm (0.98" x 1.27")	4028-5028	3018-0057-041
	BGA-521	43mm x 43mm (1.69" x 1.69")	4028-5029	3018-0057-042
	BGA-540	44mm x 44mm (1.73" x 1.73")	4028-5030	3018-0057-028
	BGA-625	32.5mm x 32.5mm (1.28" x 1.28")	4028-5031	3018-0057-043
	BGA-169	22mm x 22mm (0.87" x .87")	4028-5032	3018-0057-044
	BGA-361	33mm x 33mm (1.29" x 1.29")	4028-5033	3018-0057-045
	BGA-720	47.5mm x 47.5mm (1.87" x 1.87")	4028-5034	3018-0057-046
	BGA-303	21mm x 25mm (0.83" x 0.98")	4028-5035	3018-0057-047
	Micro BGA-48	7.75mm x 5.6mm (0.31" x 0.22")	4028-5501	3018-0057-012
	Micro BGA-48	7.85mm x 6.40mm (0.31" x 0.25")	4028-5502	3018-0057-011

# Nozzles

## Standard ThermoFlo Nozzles

### Standard Nozzles

PATTERN NOZZLES	COMPONENT TYPE	JET SPACING	JET LENGTH	PART NUMBERS
	SOIC- 8 (JEDEC)	4.1mm (0.16")	6.1mm (0.24")	4028-4001
	SOIC-14/16 (JEDEC)	4.1mm (0.16")	10.9mm (0.43")	4028-4002
	SOICL-16 (JEDEC)	7.9mm (0.31")	10.9mm (0.43")	4028-4003
	SOICL-20 (JEDEC)	7.9mm (0.31")	13.5mm (0.53")	4028-4004
	SOICL-24 (JEDEC)	7.9mm (0.31")	16mm (0.63")	4028-4005
	SOICL-28 (JEDEC)	7.9mm (0.31")	18.5mm (0.73")	4028-4006
	SOICL-32 (JEDEC)	11.68mm (0.46")	20.83mm (0.82")	4028-4007
	TSOP-48 (Type I)	18.6mm (0.734")	18.6mm (0.734")	4028-4505
	TSOP-32/40/44/50 (Type II)	10.4mm (0.41")	21.35mm (0.84")	4028-4506
SINGLE JET NOZZLES	SHAPE OF JET TUBE	NOZZLE SIZE (NOMINAL)	PART NUMBERS	
	Curved, Round	3.0mm diameter (0.1" diameter)	4028-1001	
	Curved, Round	5.0mm diameter (0.2" diameter)	4028-1002	
	Curved, Round	8.0mm diameter (0.3" diameter)	4028-1003	
	Straight, Round	3.0mm diameter (0.01" diameter)	4028-1011	
	Straight, Round	5.0mm diameter (0.2" diameter)	4028-1012	
	Straight, Round	8.0mm diameter (0.3" diameter)	4028-1013	
	Flat Jet	13.21mm length (0.52")	4028-1021	
	Flat Jet	23.37mm length (0.92")	4028-1022	
	BOX NOZZLES	SHAPE OF JET TUBE	NOZZLE SIZE (NOMINAL)	PART NUMBERS
 Baffled Nozzle	PLCC-18 (Non Baffled)	8.5mm x 12.1mm (0.34" x 0.48")	4028-2001	
	PLCC-20 (Non Baffled)	10.2mm x 10.2mm (0.40" x 0.40")	4028-2002	
	PLCC-28 (Non Baffled)	12.8mm x 12.8mm (0.50" x 0.50")	4028-2003	
	PLCC-32 (Non Baffled)	12.8mm x 15.3mm (0.50" x 0.60")	4028-2004	
	PLCC-44 (Non Baffled)	17.9mm x 17.9mm (0.70" x 0.70")	4028-2005	
	PLCC-52	20.4mm x 20.4mm (0.80" x 0.80")	4028-2006	
	PLCC-68	25.5mm x 25.5mm (1.01" x 1.01")	4028-2007	
	PLCC-84	30.6mm x 30.6mm (1.20" x 1.20")	4028-2008	
	PLCC-100	38.9mm x 38.9mm (1.53" x 1.53")	4028-2009	
	QFP-80/100	18.1mm x 24.1mm (0.71" x 0.95")	4028-2501	
 *Non Baffled Nozzle	QFP-64/80 (Non Baffled)	17.0mm x 17.0mm (0.67" x 0.67")	4028-2502	
	QFP-132	26.9mm x 26.9mm (1.06" x 1.06")	4028-2503	
	QFP-160	31.9mm x 31.9mm (1.26" x 1.26")	4028-2504	
	QFP-208	31.5mm x 31.5mm (1.24" x 1.24")	4028-2505	
	QFP-240	34.6mm x 34.6mm (1.36" x 1.36")	4028-2506	
	BQFP-132	27.1mm x 27.1mm (1.07" x 1.07")	4028-2602	
	TQFP-32 (Non Baffled)	11.5mm x 11.5mm (0.453" x 0.453")	4028-3002	
	TQFP-120 (Non Baffled)	15.5mm x 15.5mm (0.610" x 0.610")	4028-3004	
	TQFP-48	18.6mm x 18.6mm (0.734" x 0.734")	4028-4505	

\*Nozzles less than 0.75" sq. do not have baffles.

# Handpieces

## PS-80 / SX-80 Replacement Parts

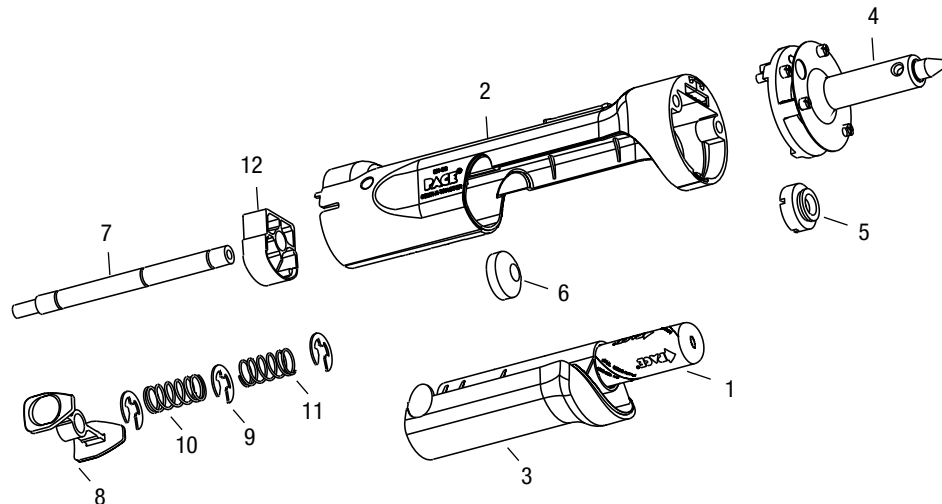


### PS-80, IR-70 SMT/THRU-Hole Soldering Irons (SensaTemp) / Replacement Parts

HANDPIECE	DESCRIPTION	PART NUMBERS
	PS-80 Soldering Iron (shown)	6010-0096-P1
	Replacement Parts	
	PS-80 Heater Assembly	6010-0095-P1
	IR-70 Heater Assembly	6010-0078-P1
	Heater Retaining Nut (PS-80 only)	1410-0104-P10

### SX-80 / Replacement Parts

ITEM #	DESCRIPTION	PART NUMBERS	ITEM #	DESCRIPTION	PART NUMBERS
	SX-80 Handpiece	6010-0106-P1	11	Spring "Short Side" (11)	1221-0137-P1
	SX-80 Kit (includes Handpiece, Tip & Tool Stand and Tip Tool)	6993-0213-P1	12	Door Lock (12)	1119-0142-P1
	SX-80 Tip and Tool Stand	6019-0060-P1		VisiFilter, Fixed	1309-0020-P1
1	FLUX/SODR TRAP			VisiFilter, Replacement	1309-0028-P1
	Package of 10	1309-0054-P10		Replaceable VisiFilter Elements	
	Package of 100	1309-0054-P100		Package of 10	1309-0027-P10
2	SX-80 Replacement Handle with PCB Power Cord	6010-0115-P1		Package of 25	1309-0027-P25
				Package of 50	1309-0027-P50
3	Door Assembly	1119-0141-P1		Tubing, 1370mm (54") Length Black	1342-0015-08
4	Heater Assembly	6010-0107-P1		Hose Clamps	1321-0085-01-P6
5	Front Seal	1213-0087-P1		Hose Fitting, Female (Quick Disconnect)	1259-0086-P1
6	Rear Seal	1213-0086-P1		Hose Fitting, Male (Quick Disconnect)	1259-0087-P1
7	Plunger Shaft	1261-0154-P1		Tubing, PVC, 1" Length	1325-0003-07
8	Plunger Lock	1500-0063-P1			
9	"C" Clips (3 pieces)	1348-0387-P3			
10	Spring "Long Side"	1221-0136-P1			

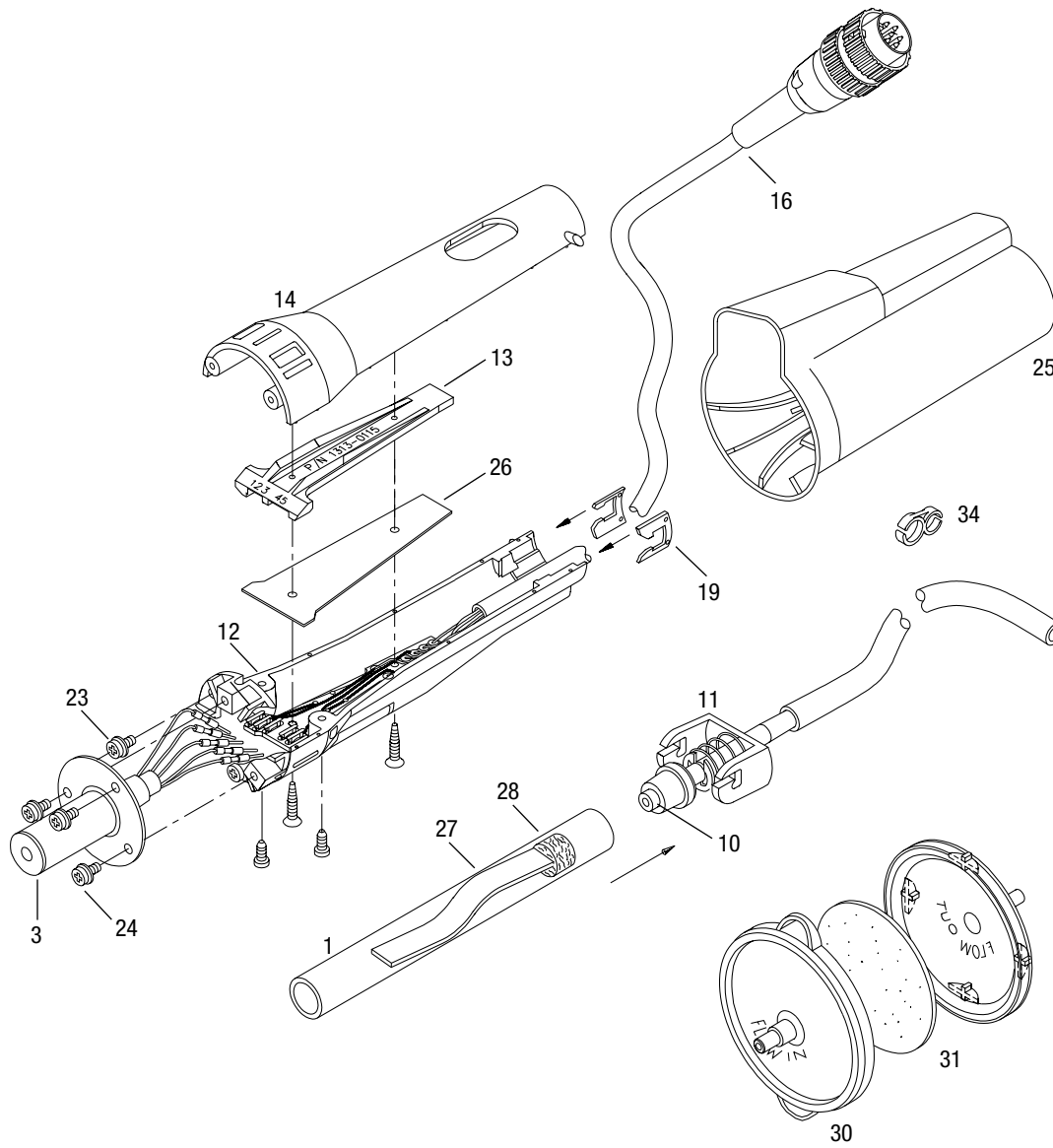


# SX Handpieces

## SX-70 Handpiece / Replacement Parts

DESCRIPTION	PART NUMBERS
SX-70 Sodr-X-Tractor	6010-0077-P1

**SX-70 Parts Diagram**  
See page 13 for parts description.



# SX Handpieces

## SX-70, SX-65A, SX-55A, SX-55 60 Watt, and SX-40A / Replacement Parts

ITEM NUMBERS	DESCRIPTION	PART NUMBERS
1	Glass Chamber	1265-0009-P1
	Optional Silicon Rubber Chamber (not for SX-40A)	1265-0010-P1
3	SX-70 Heater and Seal Assembly	6010-0080-P1
	SX-65A Heater and Seal Assembly	6010-0074-P1
	SX-55A Heater and Seal Assembly	6010-0072-P1
	SX-55 60 Watt Heater and Seal Assembly	6010-0048-P1
	SX-40A Heater and Seal Assembly	6010-0069-P1
	SX-40 (old style) Heater and Seal Assembly (comes with Dissipator)	6010-0038-P1
	Front Seal, Heater	1213-0033-P1
10	Rear Seal	1213-0001-P1
11	Rear Seal Retainer Assembly	4010-01016-P1
12	Heat Dissipator	1360-0005
13	PCB Guide Cover	1313-0115
14	Replacement Handle Kit (SX, TP, TJ) (includes Top/Bottom Plates, Heat Dissipator, and Hardware)	6993-0140
	Replacement Hardware Kit (SX, TP, TJ) (includes Screws and Handle Clips)	6993-0189-P1
16	Switch and Cord Assembly (SX-70 only)	4010-0098-P1
	Switch and Cord Assembly Kit (SX-65A/55A/55 60 Watt) (also includes PCB Cover, and Button)	6993-0134
	Switch and Cord Assembly (SX-40A only)	6993-0135-P1
19	Handle Clips	1209-0006-P5
	Replacement Button	1119-0119-P1
	Set Screws, for SX-70 heaters and older heaters, date coded 1/90 or later	1348-0547-P10
	Set Screws, for old-style heaters, date coded 12/89 or before	1348-0287-P10
23	Dissipator Mounting Screws (mounts dissipator to handle)	1405-0534-P3
24	Heater Mounting Screws, mounts heater to dissipator	1405-0395-P3
25	Thermal Insulative Handpiece Sleeve (optional)	1346-0065
26	Solder Shield (comes with the purchase of any Heater Assembly)	1213-0072
27	"S" Baffle	4010-0033
28	Sodr-X-Tractor Filter	
	Package of 10	1309-0018-P10
	Package of 50	1309-0018-P50
	VisiFilter, Fixed	1309-0020-P1
30	VisiFilter, Replaceable	1309-0028-P1
31	Replaceable VisiFilter Elements	
	Package of 10	1309-0027-P10
	Package of 25	1309-0027-P25
	Package of 50	1309-0027-P50
	Tubing, Length 1370mm (54") Black	1342-0015-08
34	Hose Clamps	1321-0085-01-P6
	Hose Fitting, Female (Quick Disconnect)	1259-0086-P1
	Hose Fitting, Male (Quick Disconnect)	1259-0087-P1
	Tubing, PVC, Length 25.4mm (1")	1325-0003-07



# SX Handpieces

## Optional Items and Replacement Parts

### SX-65A, SX-55A, SX-55 60 Watt, and SX-40A Sodr-X-Tractors

DESCRIPTION	PART NUMBERS
<b>SensaTemp</b>	
SX-65A Sodr-X-Tractor	Obsolete
<b>Non-SensaTemp</b>	
SX-55A Sodr-X-Tractor (for use with MBT-200/100/10/5)	Obsolete
SX-55 60 Watt Sodr-X-Tractor (Heavy Duty)	Obsolete
SX-40A Sodr-X-Tractor (for use with MP-1 only)	Obsolete

### SX-25 and SX-20 / Replacement Parts

DESCRIPTION	PART NUMBERS
Glass Chamber	1265-0003-P1
"S" Baffle	4010-0033
Sodr-X-Tractor Filter	
Package of 10	1309-0018-P10
Package of 50	1309-0018-P50
Heater and Seal Assembly, Dual Path, 120 VAC, 35 Watt	6010-0034-P1
Heater Washer	1213-0030-P2
Nylon Screw	1405-0341-P5
Set Screw, for A-style heaters, date coded 10/89 or later	1348-0547-P10
Set Screw, for old-style heaters, date coded 9/89 or before	1348-0287-P10
Cord/Handle Replacement (SX-20 and SX-25)	6993-0144
VisiFilter, Fixed	1309-0020-P1
VisiFilter, Replaceable	1309-0028-P1
Replaceable VisiFilter Elements	
Package of 10	1309-0027-P10
Package of 25	1309-0027-P25
Package of 50	1309-0027-P50
Twist Lock Fitting (Male)	1263-0004
Tubing Assembly with VisiFilter	1325-0017
Tubing Assembly with Twist Lock Fitting	1325-0007
Clamp, Flat Cord & Tubing, Package of 6	1211-0002-P6
Tubing, 6' Length Clear	1325-0003-01
Tubing, 12' Length Clear	1325-0012
Rear Seal Retainer Assembly	4010-0101-P1
Bristle Brush, Package of 5	1127-0002-P5
Wire Brush, Package of 5	1127-0006-P5
Thermal Insulative Handpiece Sleeve	1346-0065
Front Seal	1213-0033-P1
Rear Seal	1213-0001-P1
Vents Kit	6993-0065-P1
Heater Mounting Screws with Lockwasher, Package of 3	1405-0395-P3

# Handpieces

## Optional Items and Replacement Parts

	DESCRIPTION	PART NUMBERS
	<p><b>SP-2A, SP-1A, IR-65A, IR-55A, IR-25 Soldering Irons / Replacement Parts</b></p> <p>SP-1A Heater Assembly            SP-2A Heater Assembly (Handpiece shown)            Retaining Nut (SP-2A, SP-1A only)            IR-65A Heater Assembly            IR-55A Heater Assembly            IR-25 Heater Assembly</p>	<p>6010-0085-P1            6010-0086-P1            1360-0094-P10            6010-0076-P1            6010-0075-P1            6010-0063-P1</p>
	<p><b>TT-65 ThermoTweez (SensaTemp) / Replacement Parts</b></p> <p>TT-65 ThermoTweez Handpiece (shown)            Heater Assembly, with Sensor            Heater Assembly, without Sensor            Cushion Grip Kit            Pads for Cushion Grips            Plastic Grip (2 ea.)            Replacement Hinge Kit</p>	<p>7025-0001-P1            6010-0082-P1            6010-0083-P1            6993-0184            1317-0029-P2            1119-0123-P1            6993-0156-P1</p>
	<p><b>TP-65 ThermoPik (SensaTemp) / Replacement Parts</b></p> <p>TP-65 ThermoPik Handpiece (shown)            Heater Assembly*            Handle Kit            Hardware Kit            * TJ-70 Heater Assembly is interchangeable with TJ-65 handpiece.</p>	<p>7024-0001-P1            6010-0081-P1            6993-0140            6993-0189-P1</p>
	<p><b>DTP-80 Dual ThermoPik (SensaTemp) / Replacement Parts</b></p> <p>DTP-80 Dual ThermoPik Handpiece (shown)            Heater Assembly, with Sensor            Heater Assembly, without Sensor            Cushion Grip Kit            Pads for Cushion Grips            Replacement Hinge Kit            Plastic Grip (2 ea.)</p>	<p>7029-0001-P1            6010-0082-P1            6010-0083-P1            6993-0184            1317-0029-P2            6993-0156-P1            1119-0123-P1</p>
	<p><b>TJ-70 ThermoJet (SensaTemp) / Replacement Parts</b></p> <p>TJ-70 ThermoJet Handpiece (shown)            Heater assembly            Handle Kit            Hardware Kit            * TJ-70 Heater Assembly is interchangeable with TJ-65 handpiece.</p>	<p>7023-0002-P1            6010-0084-P1            6993-0140            6993-0189</p>

# SMR Handpieces



## Optional Items and Replacement Parts

### SMR Handpieces / Replacement Parts

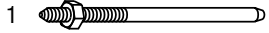
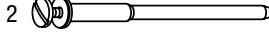
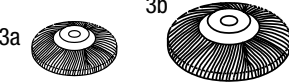
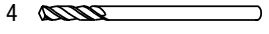
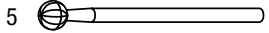




DESCRIPTION	PART NUMBERS
<b>LF-15 LapFlo Pulse Heat Handpiece</b>	
LF-15 LapFlo Handpiece (Static Dissipative)	7013-0004-02-P1
LF-1 Single-Point SMD Soldering Tip (LapFlo)	6000-0008
ThermoPart Coating Removal Tip	6000-0009
LF-2 Multi-point SMD Soldering Tip (0.270")	1121-0298-P1
LF-3 Multi-point SMD Soldering Tip (0.540")	1121-0299-P1
LF-4 Multi-point SMD Soldering Tip (0.440")	1121-0300-P1
Universal Power Cord	7000-0023
<b>CT-15 ConductTweez Pulse Heat Handpiece</b>	
CT-15 ConductTweez Handpiece (Static Dissipative)	7020-0001-P1
CT-1 Chip Component Tip	1121-0286-P1
Guide Block Kit	6993-0105-P1
CT-2 14, 16 lead SOIC Tip	1121-0271-P1
CT-3 20 lead SOIC Tip	1121-0270-P1
CT-4 24, 28 lead SOIC Tip	1121-0293-P1
CT-5 SOT Tip	1121-0269-P1
CT-6 Rounded End Auxiliary Heating Tip	1121-0004-P2
Universal Power Cord	7000-0023
Tip Mounting Screw	1405-0182-P5
<b>TW-15 ResisTweez Pulse Heat Handpiece</b>	
TW-15 ResisTweez Handpiece (Static Dissipative)	7009-0005-P1
Guide Block Kit	6993-0105-P1
RT-1 18 Pin PLCC ThermoBond Tip	1121-0294-P1
18 Pin PLCC RAM ThermoBond Tip	1121-0372-P1
RT-2 20 Pin PLCC ThermoBond Tip	1121-0295-P1
RT-3 28 Pin PLCC ThermoBond Tip	1121-0296-P1
32 Pin PLCC ThermoBond Tip	1121-0348-P1
RT-4 44 Pin PLCC ThermoBond Tip	1121-0297-P1
RT-5 Tapered Flat End Resistance Tips	1121-0301-P1
RT-6 Round End Resistance Tips	1121-0009-P2
RT-7 Flat End Resistance Tips	1121-0006-P2
Universal Power Cord	7000-0023
Tip Mounting Screw	1405-0182-P5
<b>TS-15 StripTweez Pulse Heat Handpiece</b>	
TS-15 StripTweez Handpiece (Static Dissipative)	7012-0002-P1
Thermal Stripper Tips	1121-0003-P2
Universal Power Cord	7000-0023
Guide Block Kit	6993-0105-P1
Tip Mounting Screw	1405-0106-P5

# Handpieces

## MicroChine Miniature Machining Handpiece / Replacement Parts

DESCRIPTION	PART NUMBERS
<b>MC-65 MicroChine Handpiece</b> (operates with PRC 2000 and MicroChine 100 Systems only)	7026-0001-P1
<i>Optional Items and Replacement Parts:</i>	
Deluxe Tool Kit (optional)	6005-0013-P1
Foot Pedal Kit (optional)	6993-0165
Probe Brake Patch Cord (PRC 2000 Systems Only)	1332-0159
Probe Brake Patch Cord (MicroChine 100 Systems Only)	1332-0163
Collet Nut	4005-0012
Collet 1.63mm (0.064") diameter	Obsolete
Collet 2.39mm (0.094") diameter - Standard Collet	Obsolete
Collet 3.25mm (0.128") diameter	Obsolete

### Deluxe Tool Kit / Replacement Parts

ITEM NUMBERS	DESCRIPTION	PART NUMBERS		
1	Mandrel Threaded	1115-0002-P10		
2	Mandrel with Screw Top	1115-0001-P10		
3a	Brush, 14.29mm (9/16") Unmounted	1127-0005-P10		
3b	Brush, 9.05mm (3/4") Unmounted	1127-0010-P10		
4	Drill, 0.79mm (1/32")	1112-0031-P10		
4	Drill, 1.19mm (3/64")	1112-0032-P10		
4	Drill, 1.59mm (1/16")	1112-0033-P10		
4	Drill, 1.98mm (5/64")	1112-0034-P10		
4	Drill, 2.39mm (3/32")	1112-0035-P10		
5	Ball Mill, 0.40mm (1/64")	1112-0001-P10		
5	Ball Mill, 0.78mm (0.03")	1112-0010-P10		
5	Ball Mill, 0.79mm (1/32")	1112-0002-P10		
5	Ball Mill, 1.19mm (3/64")	1112-0003-P10		
5	Ball Mill, 1.59mm (1/16")	1112-0004-P10		
5	Ball Mill, 2.38mm (3/32")	1112-0005-P10		
5	Ball Mill, 3.18mm (1/8")	1112-0006-P10		
5	Ball Mill, 3.97mm (5/32")	1112-0007-P10		
5	Ball Mill, 6.35mm (1/4")	1112-0009-P10		
6	Saw, 2.38mm (3/32"), Mounted	1112-0061-P10		
7	Abrasive Wheel 5/8 Green	1129-0003-P10		
7	Abrasive Wheel 5/8 Red	1129-0004-P10		
8	Abrasive Wheel 7/8 Red	1129-0001-P10		
8	Abrasive Wheel 7/8 Green	1129-0002-P10		
9	Bullet Abrasive, Red	1129-0007-P10		
9	Bullet Abrasive, Green	1129-0008-P10		
(not shown)	Circular Saw, Unmounted	1112-0062-P10		

### PV-65 Pik-Vac Vacuum Wand

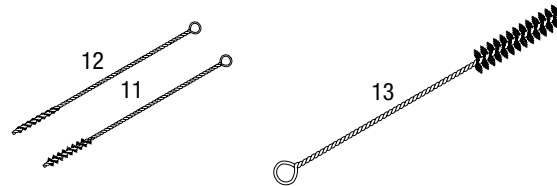
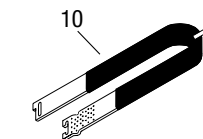
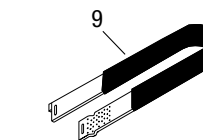
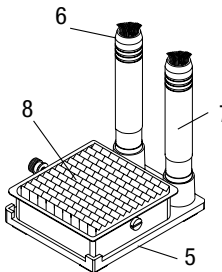
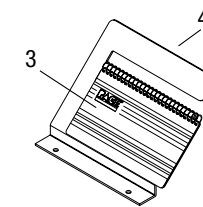
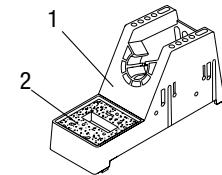
DESCRIPTION	PART NUMBERS
PV-65 Pik-Vac Vacuum Wand	7027-0001-P1
HP-65 HandiPik (self-contained component handling wand)	7028-0001-P1
Kit, 1 Small Vacuum Cup, 1 Medium Vacuum Cup, 1 Large Vacuum Cup and 3 Vacuum Needles	6993-0154-P1

# Handpieces

## Accessories

### SensaTemp and Non-SensaTemp Handpieces

ITEM NUMBERS	DESCRIPTION	PART NUMBERS
1	PS Tip & Tool Stand (holds PS-80)	6019-0050-P1
	SP Tip & Tool Stand (holds SP-2A or SP-1A)	6019-0043-P1
	SX Tip & Tool Stand (holds TJ-70, TP-65, or any SX handpiece)	6019-0044-P1
	IR Tip & Tool Stand (holds IR-70 or IR-65)	6019-0045-P1
	TT Tip & Tool Stand (holds TT-65)	6019-0046-P1
2	DTP Tip & Tool Stand (holds DTP-80)	6019-0047-P1
	Sponges for Tip and Tool Stands (SX, PS, SP), Package of 3	4021-0008-P3
	Solder Catcher for any Tip and Tool Stand	1312-0008-P1
3	Tip and Temperature Selection System (charts only)	5050-0251
4	Tip and Temperature Selection System Holder	1257-0186-P1
5	Tip Maintenance Station (with Fiber Tool and Sponge Tool)	6993-0138
6	Fiber Cleaning Tool for Surface Mount Tips	1100-0232
	Replacement Fiber Filler (for Fiber Cleaning Tool), Package of 2	1127-0013-P2
7	Sponge Cleaning Tool for Surface Mount Tips	1100-0233
	Replacement Sponge Filler (for Sponge Cleaning Tool), Package of 5	4021-0006-P5
8	Sponges for Tip Maintenance Station, Package of 7	4021-0007-P7
9	Tip Tool	1100-0206
10	Tip and Vacuum Cup Tool	1100-0239
	Tip & Tool Stand Tip Redi-Rak (for tip storage)	6021-0008-P1
	Tip Alignment Tool for ThermoTweez Handpiece	1100-0234-P1
	Tip Redi-Rak	6021-0007-P1
	Sodr-X-Tractor Tip Cleaning Kit	6993-0151
	Thermal Insulative Handpiece Sleeve (fits one SX-70, SX-65A, TJ-65, TJ-70, TP-65, SX-25, or SX-25V Handpiece)	1346-0065
	Wire Brush, 4.76mm (3/16"), Package of 5	1127-0014-P5
11	Wire Brush, 3.18mm (1/8"), Package of 5	1127-0006-P5
12	Bristle Brush, Package of 5	1127-0002-P5
13	Set Screw for any SensaTemp Handpiece, Package of 10	1348-0547-P10
	PAGE Screwdriver	1100-0230
	Tip Brite Tip Tinner	1102-0016-P1

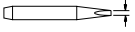
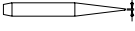

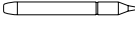

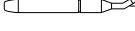
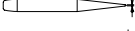
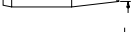
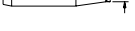

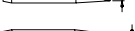
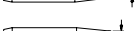


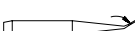




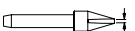



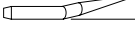

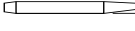
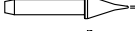
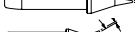

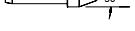
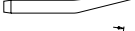


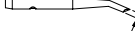

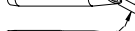
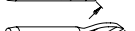




# SensaTemp Handpiece Tips

The following is a representation of the most popular tips.


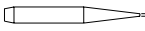
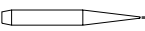
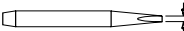
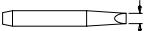
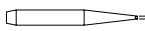
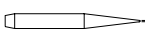
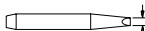
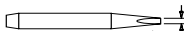

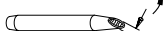
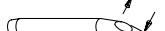
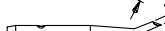
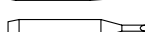

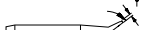
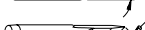




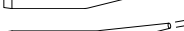
For a complete listing of all PACE tips call 1-888-535-PACE (7223)

or visit our website at [www.paceworldwide.com](http://www.paceworldwide.com)

DESCRIPTION	SIZE	PART NUMBERS	
<b>Tips for PS-80 Soldering Iron</b>			
	1/16" Chisel (high capacity)	1.60mm (0.063")	1121-0414-P5
	1/64" Conical	0.40mm (0.016")	1121-0357-P5
	1/64" Sharp Conical	0.40mm (0.016")	1121-0829-P5
	1/64" Sharp Bent Conical	0.40mm (0.016")	1121-0830-P5
	1/64" Sharp Conical, Extended Reach	0.40mm (0.016")	1121-0831-P5
	1/64" Sharp Bent Conical, Extended Reach	0.40mm (0.016")	1121-0832-P5
	1/128" Conical	0.20mm (0.008")	1121-0711-P5
	1/32" Conical	0.80mm (0.031")	1121-0336-P5
	1/16" Chisel	1.60mm (0.063")	1121-0335-P5
	1/16" Chisel Long Reach	1.60mm (0.063")	1121-0499-P5
	1/8" Chisel	3.20mm (0.125")	1121-0337-P5
	1/32" Chisel	0.80mm (0.031")	1121-0359-P5
	3/32" Chisel	2.40mm (0.094")	1121-0360-P5
	1/16" Chisel, Extended Reach	1.60mm (0.063")	1121-0533-P5
	1/64" Conical, Extended Reach	0.40mm (0.016")	1121-0528-P5
	1/64" Bent Conical	0.40mm (0.016")	1121-0363-P5
	1/64" Bent Conical	0.40mm (0.016")	1121-0828-P5
	1/32" Conical, Extended Reach	0.80mm (0.031")	1121-0527-P5
	3/16" Chisel	4.80mm (0.188")	1121-0358-P5
	1/16" Chisel (MicroFine)	1.60mm (0.063")	1121-0349-P5
	1/16" Chisel, Thermo-Drive	1.60mm (0.063")	1121-0510-P5
	1/32" Bent Chisel	0.80mm (0.031")	1121-0361-P5
	1/8" Chisel, Thermo-Drive	3.20mm (0.125")	1121-0518-P5
	3/32" Chisel, Extended Reach	2.40mm (0.094")	1121-0529-P5
	1/64" Bent Conical	0.40mm (0.016")	1121-0535-P5
	1/128" Thermo-Drive Conical	0.20mm (0.008")	1121-0825-P5
	1/16" Bent Chisel, Long Reach	1.60mm (0.063")	1121-0500-P5
	1/64" Conical, Thermo-Drive	0.40mm (0.016")	1121-0516-P5
	1/32" Conical, Thermo-Drive	0.80mm (0.031")	1121-0710-P5
	1/64" Bent Conical, Thermo-Drive	0.40mm (0.016")	1121-0526-P5
	3/64" Bent Chisel, Thermo-Drive	1.20mm (0.047")	1121-0525-P5
	Single-Sided Chisel, Fine Pitch	1.50mm (0.06")	1121-0563-P5
	Angled Mini-Wave	3.30mm (0.13")	1121-0822-P5
	Angled Mini-Wave, Fine Pitch	1.80mm (0.07")	1121-0564-P5
	Angled Mini-Wave	2.40mm (0.09")	1121-0610-P5
	Single-Sided Chisel	3.30mm (0.13")	1121-0406-P5
	Mini-Wave	3.30mm (0.13")	1121-0490-P5
	Flat Blade	6.60mm (0.25")	1121-0402-P1
	Flat Blade	10.2mm (0.40")	1121-0305-P5

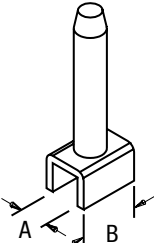
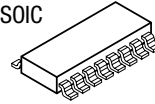
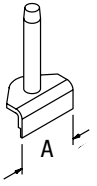
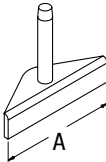
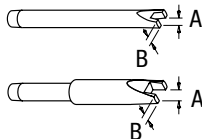

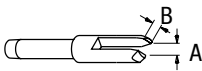

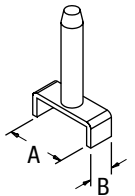
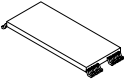
# Tips

## SensaTemp Handpiece Tips

DESCRIPTION	SIZE	PART NUMBERS	
<b>PS-80 Long Life Tips (continued)</b>			
	1/16" Chisel High Capacity	1.60mm (0.063")	1121-0606-P5
	1/32" Conical	0.80mm (0.031")	1121-0639-P5
	1/64" Conical	0.40mm (0.016")	1121-0607-P5
	1/16" Chisel Long Reach	1.60mm (0.063")	1121-0640-P5
	1/8" Chisel	3.20mm (0.125")	1121-0641-P5
	1/16" Chisel	1.60mm (0.063")	1121-0642-P5
	1/32" Chisel	0.80mm (0.031")	1121-0643-P5
	3/32" Chisel	2.40mm (0.094")	1121-0644-P5
	1/16" Chisel, Extended Reach	1.60mm (0.063")	1121-0645-P5
	1/16" Bent Chisel, Long Reach	1.60mm (0.063")	1121-0646-P5
	Mini-Wave	3.30mm (0.13")	1121-0608-P5
	Single Sided Chisel	3.30mm (0.13")	1121-0647-P5
	Angled Mini Wave	2.40mm (0.09")	1121-0648-P5
	1/16" Chisel (MicroFine)	1.60mm (0.063")	1121-0649-P5
	3/16" Chisel	4.80mm (0.188")	1121-0650-P5
	1/32" Bent Chisel	0.80mm (0.031")	1121-0651-P5
	Flat Blade, 1/4"	6.60mm (0.25")	1121-0652-P1
	1/8" Chisel, Thermo-Drive	3.20mm (0.125")	1121-0653-P5
	1/32" Conical, Extended Reach	0.80mm (0.031")	1121-0654-P5
	1/64" Bent Conical	0.40mm (0.016")	1121-0655-P5
	Single-Sided Chisel, Fine Pitch	1.50mm (0.06")	1121-0656-P5
	Angled Mini Wave, Fine Pitch	1.80mm (0.07")	1121-0657-P5

# Surface Mount Removal Tips

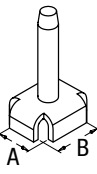
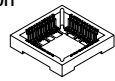
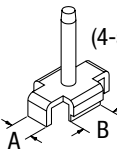
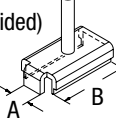
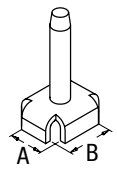

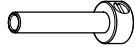
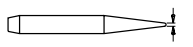
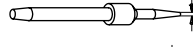
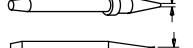
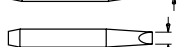
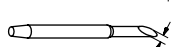

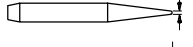
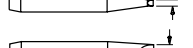
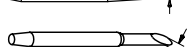

## SensaTemp Handpiece Tips

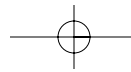
TIPS (and Application)	DESCRIPTION	TIP SIZE A x B	PART NUMBERS	
<b>PS-80, IR-70 Soldering Irons / Surface Mount Removal Tips</b>				
 <p>Application</p>  <p>SOIC</p>	SOIC - 8 (JEDEC)	5.05mm x 5.08mm (0.199" x 0.200")	1121-0390-P1	
	SOIC - 8 (EIAJ)	4.83mm x 6.25mm (0.190" x 0.246")	1121-0438-P1	
	SOIC - 14 (JEDEC)	5.05mm x 8.99mm (0.199" x 0.354")	1121-0391-P1	
	SOIC - 14 (EIAJ)	5.56mm x 9.14mm (0.219" x 0.360")	1121-0377-P1	
	SOIC - 16 (JEDEC)	5.05mm x 10.2mm (0.199" x 0.404")	1121-0392-P1	
	SOIC - 16 (EIAJ)	7.42mm x 9.91mm (0.292" x 0.390")	1121-0439-P1	
	SOIC - 16 (JEDEC)	9.37mm x 10.7mm (0.369" x 0.423")	1121-0393-P1	
	SOIC - 20 (JEDEC)	9.37mm x 13.3mm (0.369" x 0.522")	1121-0394-P1	
	SOIC - 20 (EIAJ)	6.83mm x 13.0mm (0.269" x 0.510")	1121-0378-P1	
	SOIC - 24 (JEDEC)	9.37mm x 15.8mm (0.369" x 0.624")	1121-0395-P1	
	SOIC - 24 (EIAJ)	10.6mm x 15.0mm (0.416" x 0.590")	1121-0441-P1	
	SOIC - 28 (JEDEC)	9.37mm x 18.4mm (0.369" x 0.723")	1121-0396-P1	
	SOIC - 28 (EIAJ)	10.6mm x 17.5mm (0.416" x 0.690")	1121-0442-P1	
	 <p>Flat Blade Tip</p>  <p>Flat Blade Tip</p>		A = 7.6mm (0.3")	1121-0512-P1
			A = 10.2mm (0.4")	1121-0514-P1
			A = 12.7mm (0.5")	1121-0473-P1
			A = 17.8mm (0.7")	1121-0416-P1
			A = 20.3mm (0.8")	1121-0497-P1
			A = 25.4mm (1.0")	1121-0448-P1
 <p>Chip Component</p> 		2.36mm x 2.03mm (0.093" x 0.080")	1121-0302-P1	
			3.56mm x 2.03mm (0.14" x 0.08")	1121-0303-P1
 <p>SOT-23</p> 		1.6mm x 3.05mm (0.063" x 0.12")	1121-0304-P1	
 <p>TSOP</p>  <p>(Thin Small Outline Pkg.)</p>		12.7mm x 8.1mm (0.50" x 0.32")	1121-0508-P1	
			15.2mm x 6.4mm (0.60" x 0.25")	1121-0389-P1
			19.333mm x 8.1mm (0.76" x 0.32")	1121-0403-P1
			19.3mm x 9.9mm (0.76" x 0.39")	1121-0509-P1
			19.3mm x 14.2mm (0.76" x 0.56")	1121-0534-P1



# Tips

## SensaTemp Handpieces Tips

TIPS	DESCRIPTION (suggested application)	TIP SIZE A x B	PART NUMBERS
<b>PS-80, IR-70 Soldering Irons / Surface Mount Removal Tips</b>			
 <p>Application</p>  <p>Socket</p>	PLCC-20 Socket	8.6mm x 8.6mm (0.34" x 0.34")	1121-0511-P1
	PLCC-28 Socket	11.4mm x 11.4mm (0.45" x 0.45")	1121-0481-P1
	PLCC-32 Socket	14.0mm x 11.4mm (0.55" x 0.45")	1121-0429-P1
	PLCC-44 Socket	16.5mm x 16.5mm (0.65" x 0.65")	1121-0430-P1
	PLCC-52 Socket	19.1mm x 19.1mm (0.75" x 0.75")	1121-0431-P1
	PLCC-68 Socket	24.1mm x 24.1mm (0.95" x 0.95")	1121-0432-P1
	PLCC-84 Socket	29.2mm x 29.2mm (1.15" x 1.15")	1121-0482-P1
 <p>Application</p>  <p>SOJ/SIMMS</p>	SOJ/SIMMs-18 (4-sided)	5.0mm x 7.8mm (0.20" x 0.31")	1121-0458-P1
	SOJ/SIMMs-20/24 (2-sided)	7.62mm x 17.3mm (0.30" x 0.68")	1121-0460-P1
 <p>Application</p>  <p>small PQFP</p>	PQFP-32	8.4mm x 8.4mm (0.33" x 0.33")	1121-0443-P1
	PQFP-44/56	11.7mm x 11.7mm (0.46" x 0.46")	1121-0445-P1
	PQFP-44	11.7mm x 12.7mm (0.46" x 0.5")	1121-0446-P1
<b>Tips for SP-1A, IR-65A, IR-55A, and IR-25 Handpieces</b>			
	ADAPTIP	Allows 3.17mm (1/8") tips to be used in PS-80/IR-70 Soldering Irons.	1360-0083-P1 1360-0083-P5
	1/32" Conical	0.80mm (1/32") 50.8mm (2") long	1121-0132-P5
	1/32" Conical (Micro Fine)	0.80mm (1/32") 50.8mm (2") long	1121-0339-P5
	1/32" Conical (High Capacity)	0.80mm (1/32") 50.8mm (2") long	1121-0340-P5
	1/16" Chisel	1.6mm (1/16") 50.8mm (2") long	1121-0131-P5
	1/8" Chisel	3.2mm (1/8") 50.8mm (2") long	1121-0130-P5
	3/32" Single Sided Chisel	2.4mm (3/32") 50.8mm (2") long	1121-0238-P5
<b>Tips with 1/8" shank diameter</b>			
	1/32" Conical	0.80mm (1/32") 42mm (1.65") long	1121-0503-P5
	1/16" Chisel	1.6mm (1/16") 42mm (1.65") long	1121-0502-P5
	1/8" Chisel	3.2mm (1/8") 42mm (1.65") long	1121-0501-P5
	3/32" Single Sided Chisel	1.6mm (1/16") 42mm (1.65") long	1121-0504-P5







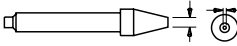
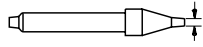

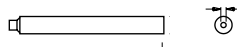
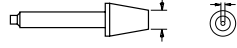


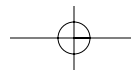
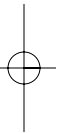
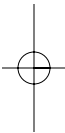
SensaTemp Handpiece Tips

# Sodr-X-Tractor Tips

**Tip 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.

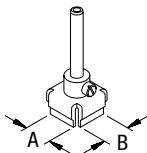

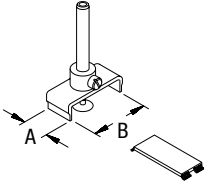
1. The Inside Diameter (I.D.) of the tip must be large enough to fit over the lead, while providing sufficient room so that air and solder can be drawn through the tip.
2. The Outside Diameter (O.D.) of the tip must be slightly smaller than the diameter of the pad to prevent tip contact to the board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

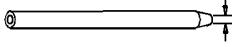
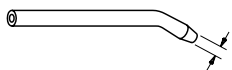
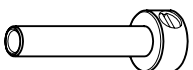
TIPS	DESCRIPTION	DIAMETER	PART NUMBERS
<b>Endura Desoldering Tips for the SX-80 and SX-70</b>			
	Thermo-Drive	0.76mm (0.030") I.D. X 2.03mm (0.080") O.D.	1121-0625-P5
	Thermo-Drive	1.02mm (0.040") I.D. X 2.29mm (0.090") O.D.	1121-0624-P5
	Thermo-Drive	1.52mm (0.060") I.D. X 3.05mm (0.120") O.D.	1121-0626-P5
	Thermo-Drive	2.29mm (0.090") I.D. X 5.1mm (0.200") O.D.	1121-0627-P5
	Thermo-Drive, Flathead	(0.050") x (0.090") I.D. X (0.110") x (0.190") O.D.	1121-0821-P5
	Extended Reach Thermo-Drive	0.76mm (0.030") I.D. X 2.29mm (0.090") O.D.	1121-0628-P5
	Extended Reach Thermo-Drive	1.02mm (0.040") I.D. X 2.54mm (0.10") O.D.	1121-0629-P5
	Extended Reach Thermo-Drive	1.52mm (0.060") I.D. X 3.05mm (0.120") O.D.	1121-0630-P5
	Precision	0.50mm (0.020") I.D. X 1.79mm (0.070") O.D.	1121-0680-P5
	Precision	0.76mm (0.030") I.D. X 2.03mm (0.080") O.D.	1121-0678-P5
	Precision	1.02mm (0.040") I.D. X 2.29mm (0.090") O.D.	1121-0679-P5
	Precision	1.52mm (0.060") I.D. X 2.79mm (0.110") O.D.	1121-0690-P5
	Precision	2.29mm (0.090") I.D. X 3.55mm (0.140") O.D.	1121-0695-P5
	Flo-D-Sodr	1.52mm (0.060") I.D. X 4.78mm (0.188") O.D.	1121-0631-P5
	Flo-D-Sodr, Precision	0.50mm (0.020") I.D. X 1.78mm (0.070") O.D.	1121-0681-P5
	Flo-D-Sodr, Precision	0.76mm (0.030") I.D. X 2.03mm (0.080") O.D.	1121-0682-P5
	Flo-D-Sodr, Precision	1.02mm (0.040") I.D. X 2.29mm (0.090") O.D.	1121-0683-P5
<b>SX-70 Thermo-Drive Desoldering Tip (Cannot be used in the SX-80)</b>			
	Tip (3/16" Shank Diameter)		
		0.76mm (0.030") I.D. x 1.52mm (0.060") O.D.	1121-0367-P5
		1.02mm (0.040") I.D. x 1.78mm (0.070") O.D.	1121-0342-P5
		1.52mm (0.060") I.D. x 2.54mm (0.100") O.D.	1121-0368-P5
		2.29mm (0.090") I.D. x 4.8mm (0.190") O.D.	1121-0507-P5
<b>SX-70 Extended Reach Thermo-Drive Desoldering Tip (Cannot be used in the SX-80)</b>			
	Tip (3/16" Shank Diameter)		
		0.76mm (0.030") I.D. x 1.91mm (0.075") O.D.	1121-0505-P5
		1.02mm (0.040") I.D. x 2.16mm (0.085") O.D.	1121-0494-P5
		1.52mm (0.060") I.D. x 2.69mm (0.106") O.D.	1121-0506-P5
<b>SX-70 Long-Life Desoldering Tips (Cannot be used in the SX-80)</b>			
	Tip (3/16" Shank Diameter)		
		0.76mm (0.030") I.D. x 1.91mm (0.075") O.D.	1121-0462-P5
		1.02mm (0.040") I.D. x 2.16mm (0.085") O.D.	1121-0463-P5
		1.52mm (0.060") I.D. x 2.69mm (0.106") O.D.	1121-0464-P5
<b>SX-70 Flo-D-Sodr Tips (Cannot be used in the SX-80)</b>			
	Tips (3/16" Shank Diameter)		
		1.52mm (0.060") I.D. x 4.77mm (0.188") O.D.	1121-0369-P5
	Long-Life Tip		
		1.52mm (0.060") I.D. x 4.98mm (0.196") O.D.	1121-0465-P5



# Sodr-X-Tractor Tips

## SensaTemp Handpiece Tips

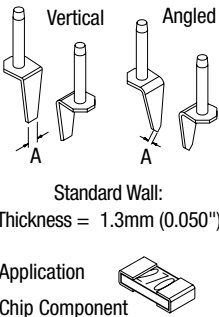
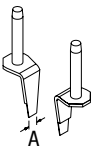
TIPS	DESCRIPTION	TIP SIZE A X B	PART NUMBERS
<b>SX-80 and SX-70 Surface Mount Removal Pik-Tips</b>			
	TQFP-28	8.2mm x 8.2mm (0.322" x 0.322")	1121-0571-P1
	TQFP-32	8.7mm x 8.7mm (0.344" x 0.344")	1121-0572-P1
	TQFP-52	12.0mm x 12.0mm (0.472" x 0.472")	1121-0573-P1
	TQFP-40	12.0mm x 12.0mm (0.472" x 0.472")	1121-0574-P1
	TQFP-80	13.2mm x 13.2mm (0.520" x 0.520")	1121-0575-P1
	TQFP-80/100	15.3mm x 15.3mm (0.604" x 0.604")	1121-0576-P1
	TQFP-144	21.6mm x 21.6mm (0.85" x 0.85")	1121-0604-P1
	TQFP-112	22.1mm x 22.1mm (0.87" x 0.87")	1121-0605-P1
	PQFP-80/100	16.8mm x 22.9mm (0.66" x 0.90")	1121-0603-P1
	TSOP-28	8.1mm x 12.7mm (0.320" x 0.500")	1121-0567-P1
	TSOP-32	8.1mm x 19.3mm (0.320" x 0.760")	1121-0566-P1
	TSOP-40	9.9mm x 19.3mm (0.390" x 0.760")	1121-0568-P1
TSOP-56	14.2mm x 19.3mm (0.560" x 0.760")	1121-0569-P1	

DESCRIPTION	DIAMETER	PART NUMBERS
<b>Micro Tips for SX-65A/55A/55 60 Watt/40A Handpieces</b>		
3.175mm (1/8") O.D.	0.76mm (0.030")	1121-0253-P5
	0.76mm (0.030") - Thin Wall	1121-0485-P5
	1.02mm (0.040")	1121-0254-P5
	1.02mm (0.040") - Thin Wall	1121-0486-P5
	1.52mm (0.060")	1121-0255-P5
	0.76mm (0.030")	1121-0261-P5
	1.02mm (0.040")	1121-0262-P5
	1.52mm (0.060")	1121-0267-P5
	ADAPTIP*	*Allows all 3.175mm (1/8") shank Micro Tips to be used with the SX-70 Sodr-X-Tractor.
		

DESCRIPTION	I. D. NOMINAL		O. D. REFERENCE		PART NUMBERS
<b>Super Tips for SX-25/SX-25V/SX-20 Sodr-X-Tractors only</b>					
	in.	mm	in.	mm	
	0.020	0.51	0.053	1.34	1121-0213-P25
	0.030	0.76	0.080	2.03	1121-0214-P25
	0.030	0.76	0.070	1.78	1121-0480-P25
	0.040	1.02	0.080	2.03	1121-0215-P25
	0.040	1.02	0.070	1.78	1121-0479-P25
	0.050	1.27	0.085	2.16	1121-0216-P25
	0.060	1.52	0.104	2.64	1121-0217-P25
	0.090	2.29	0.125	3.17	1121-0091-P25

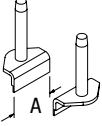
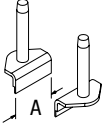
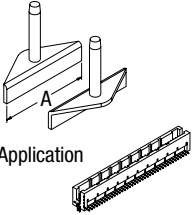
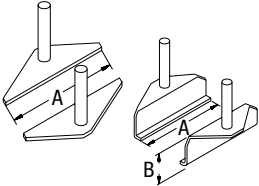
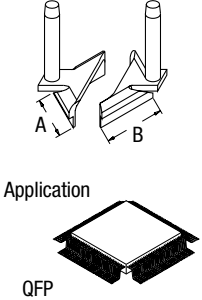
# Tips

## SensaTemp Handpieces Tips

TIPS	DESCRIPTION	TIP SIZE	PART NUMBERS
<b>Tips for TT-65 Handpiece</b>			
 <p>Vertical</p> <p>Angled</p> <p>Standard Wall: Thickness = 1.3mm (0.050")</p> <p>Application Chip Component</p>	Surface Mount Component Removal Tips		
	Chip Component (vertical)	A=0.76mm (0.03")	1121-0398-P1
	Chip Component (vertical)	A=2.0mm (0.08")	1121-0313-P1
	Chip Component (vertical)	A=4.1mm (0.16")	1121-0399-P1
	Chip Component (vertical) Small SOIC	A=6.4mm (0.25")	1121-0401-P1
	45° Angled Chip Component	A=2.54mm (0.10")	1121-0436-P1
 <p>Thin-Wall: Thickness = 0.43mm (0.017")</p> <p>Application Chip Component</p>	Thin-Walled Chip Component (vertical)	A=0.76mm (0.03")	1121-0520-P1
	Thin-Walled Chip Component (vertical)	A=2.0mm (0.08")	1121-0521-P1
	Thin-Walled Chip Component (vertical)	A=4.1mm (0.16")	1121-0522-P1
	Thin-Walled Chip Component and Small SOIC (vertical)	A=6.4mm (0.25")	1121-0523-P1
	1/64" Angled Fine Point Conical Chip Component	A=0.43mm (0.017")	1121-0517-P1

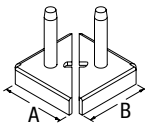


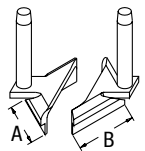
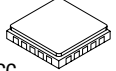
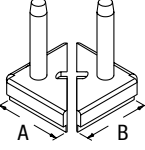
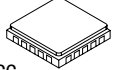
# ThermoTweez Tips

## SensaTemp Handpieces Tips

TIPS	DESCRIPTION	TIP SIZE A x B	PART NUMBERS
	<b>Tips for TT-65 Handpiece</b> <b>Surface Mount Component Removal Tips</b> Narrow-body connectors, and SOIC Components	A=7.6mm (0.3") A=10.2mm (0.4")	1121-0512-P1 1121-0514-P1
 <p>Application</p>	SOIC, SOJ, SIMMs Component	A=12.7mm (0.5") A=17.8mm (0.7") A=20.3mm (0.8") A=25.4mm (1.0")	1121-0473-P1 1121-0416-P1 1121-0497-P1 1121-0448-P
 <p>Application</p>	Surface Mount Connectors	A=31.8mm (1.25") A=38.1mm (1.5") Protective Guard A=50.8mm (2.0") Protective Guard	1121-0495-P1 1121-0475 -P1 3018-0056-01 1121-0477-P1 3018-0056-02
 <p>Application</p>	PCMCIA Connector	A=44.5mm (1.75") A=44.5mm (1.75") B=12.7mm (0.5")	1121-0545-P1 1121-0547-P1
 <p>Application</p> <p>QFP</p>	<b>QFP Removal Tips</b> PQFP-80/100 TQFP-100 TQFP-80/100 Wall thickness = 0.635mm (0.025") on these three tips	16.8mm x 22.9mm (0.66" x 0.90") 13.2mm x 13.2mm (0.52" x 0.52") 11.2mm x 11.2mm (0.4" x 0.44")	1121-0560-P1 1121-0540-P1 1121-0542-P1

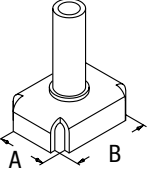
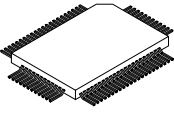
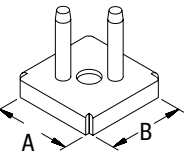
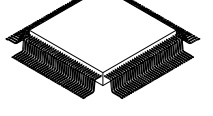
# Tips

## SensaTemp Handpieces Tips

TIPS	DESCRIPTION	TIP SIZE A x B	PART NUMBERS		
<b>Tips for TT-65 Handpiece</b>					
 <p>Standard Wall: Thickness = 1.3mm (0.050")</p> <p>Application PLCC</p>  <p><i>The ThermoTweez can also remove leadless components (LCCCs) if sized correctly.</i></p> <p>PQFP</p> 	<b>PLCC/PQFP Removal Tips</b>  PLCC-18  PLCC-20  PLCC-28  PLCC-28R  PLCC-32  PLCC-44, PQFP-84  PLCC-52, PQFP-100  PLCC-68, PQFP-132  PLCC-84, PQFP-160  PLCC-100  PQFP-304	8.64mm x 5.84mm (0.34" x 0.23")  6.86mm x 6.86mm (0.27" X 0.27")  9.4mm x 9.4mm (0.37" x 0.37")  12.4mm x 7.4mm (0.49" x 0.29")  12.2mm x 9.65mm (0.48" x 0.38")  14.5mm x 14.5mm (0.57" x 0.57")  17.0mm x 17.0mm (0.67" x 0.67")  21.9mm x 21.9mm (0.86" x 0.86")  26.9mm x 26.9mm (1.06" x 1.06")  33.3mm x 33.3mm (1.31" x 1.31")  41.7mm x 41.7mm (1.64" x 1.64")	1121-0314-P1  1121-0316-P1  1121-0317-P1  1121-0492-P1  1121-0352-P1  1121-0318-P1  1121-0319-P1  1121-0320-P1  1121-0321-P1  1121-0405-P1  1121-0491-P1		
	<b>Thin-Walled Surface Mount Removal Tips</b>				
	 <p>Application</p>  <p>LCCC</p>	<b>Removal Tips for Motorola Pager LCCC Packages</b>  and small, Fine-Pitch PQFPs	6.6mm x 6.6mm (0.26" x 0.26")  7.11mm x 7.11mm (0.28" x 0.28")  7.87mm x 7.87mm (0.31" x 0.31")  8.13mm x 8.13mm (0.32" x 0.32")	1121-0417-P1  1121-0419-P1  1121-0421-P1  1121-0423-P1	
			Wall thickness=0.025" (standard height= 0.275")	9.16mm x 8.89mm (0.40" x 0.35")  13.2mm x 13.2mm (0.52" x 0.52")	1121-0425-P1  1121-0427-P1
		<b>LCCC Removal Tips</b>			
		 <p>Application</p>  <p>LCCC</p>	<b>Removal Tips for LCCC Packages</b>  and small, Fine-Pitch PQFPs	6.6mm x 6.6mm (0.26" x 0.26")  8.89mm x 6.35mm (0.35" x 0.25")  8.89mm x 8.89mm (0.35" x 0.35")	1121-0450-P1  1121-0452-P1  1121-0454-P1
				Wall thickness = 0.025" (reduced height = 0.2" for high mass boards)	21.6mm 21.6mm (0.85" x 0.85")

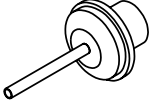
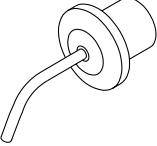
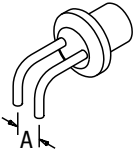
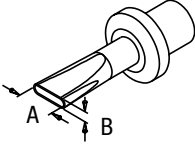
# Tips

## SensaTemp Handpieces Tips

TIPS	DESCRIPTION	TIP SIZE A x B	PART NUMBERS
 <p>Application Flat Pack</p>  <p>Note: The TP-65 ThermoPik requires an SX Tip &amp; Tool Stand.</p>	<b>Tips for TP-65 ThermoPik Handpiece</b>		
	FlatPack Tip	15.5mm x 21.6mm (0.61" x 0.85")	1121-0322-001-P1
	FlatPack Tip	16.8mm x 22.9mm (0.66" x 0.90")	1121-0322-002-P1
	PQFP-68 Tip (bumper pack)	15.7mm x 15.7mm (0.62" x 0.62")	1121-0323-P1
	PQFP-64/80 (non-bumper pack)	15.7mm x 15.7mm (0.62" x 0.62")	1121-0484-P1
	PQFP-84 Tip	18.3mm x 18.3mm (0.72" x 0.72")	1121-0324-P1
	PQFP-100 Tip	20.8mm x 20.8mm (0.82" x 0.82")	1121-0325-P1
	PQFP-132 Tip	25.9mm x 25.9mm (1.02" x 1.02")	1121-0326-P1
	PQFP-144	29.2mm x 29.2mm (1.15" x 1.15")	1121-0456-P1
	PQFP-208	30.0mm x 30.0mm (1.18" x 1.18")	1121-0544-P1
	PQFP-160 Tip	31.0mm x 31.0mm (1.22" x 1.22")	1121-0351-P1
	PQFP-196	36.3mm x 36.3mm (1.43" x 1.43")	1121-0483-P1
 <p>Application</p>  <p>PQFP</p>	<b>Tips for DTP-80 Handpiece</b>		
	PQFP 100	20.8mm x 20.8mm (0.82" x 0.82")	1121-0549-P1
	PQFP 132	25.9mm x 25.9mm (1.02" x 1.02")	1121-0551-P1
	PQFP 144	29.2mm x 29.2mm (1.15" x 1.15")	1121-0553-P1
	PQFP 208	30.0mm x 30.0mm (1.18" x 1.18")	1121-0557-P1
	PQFP 160/208	31.0mm x 31.0mm (1.22" x 1.22")	1121-0552-P1
	PQFP 240	33.8mm x 33.8mm (1.33" x 1.33")	1121-0558-P1
	PQFP 196	36.3mm x 36.3mm (1.43" x 1.43")	1121-0554-P1
	PQFP-304	42.4mm x 42.4mm (1.67" x 1.67")	1121-0593-P1
	<b>Vacuum Cups</b>		
Small	4.4mm (0.195")	1121-0382-P5	
Medium	7.62mm (0.300")	1121-0383-P5	
Large	12.7mm (0.500")	1121-0384-P5	
Kit (with 3 cups)	Includes one of each size	6993-0153-P1	

# ThermoJet Tips

## SensaTemp Handpieces Tips

REMOVAL TIPS	DESCRIPTION	TIP SIZE A x B	PART NUMBERS
	<b>Tips for TJ-70 Handpiece</b> Small, Straight, Single Jet Tip	0.060" I.D.	1121-0366-P1
		Small, Curved, Single Jet Tip	0.060" I.D.
	SOT/Chip Component Tip (dual-jet)	A = 3.56mm (0.14")	1121-0329-P1
	SOIC Tip (dual-jet)	A = 4.32mm (0.17")	1121-0330-P1
	SOICL Tip (dual-jet)	A = 9.40mm (0.37")	1121-0331-P1
	Flat End Tip	A = 7.11mm (0.28") B = 1.88mm (0.074")	1121-0365-P1
		A = 6.10mm (0.24") B = 1.88mm (0.074")	1121-0371-P1



# PACE Tip Kits

Many customers would like to try a variety of different tip shapes and sizes. PACE Tip Kits provide a variety of popular tip shapes and sizes. PACE offers nine Tip Kits for the SensaTemp family of handpieces.

## PS-80 Soldering Iron Tip Kits

DESCRIPTION	TYPE/SIZE	PART NUMBERS
<b>Surface Mount Tip Kit</b>		<b>6993-0209</b>
<i>Includes one of each of the following tips:</i>	Single Sided Chisel, Fine Pitch	1121-0563
	Angled Mini-Wave, Fine Pitch	1121-0564
	Angled Mini-Wave	1121-0610
	Single Sided Chisel	1121-0406
	Mini-Wave	1121-0490
	Flat Blade (0.25")	1121-0402
	Flat Blade (0.40")	1121-0305
	1/64" Conical	1121-0357
	1/128" Conical	1121-0711
<b>Chisel Tip Kit</b>		<b>6993-0210</b>
<i>Includes one each of the following tips:</i>	1/16" Chisel	1121-0414
	1/8" Chisel	1121-0337
	3/32" Chisel	1121-0360
	1/32" Bent Chisel	1121-0361
	1/16" Thermo-Drive Chisel	1121-0510
	3/16" Chisel	1121-0358
	Extended Reach Single Sided Chisel	1121-0532
	1/8" Thermo-Drive Chisel	1121-0518
<b>Conical Tip Kit</b>		<b>6993-0211</b>
<i>Includes one of each of the following tips:</i>	1/64" Conical	1121-0357
	1/64" Bent Conical	1121-0363
	1/32" Conical	1121-0336
	1/64" Bent Conical	1121-0535
	1/64" Extended Reach Conical	1121-0528
	1/64" Thermo-Drive Conical	1121-0527
	1/64" Extended Reach Conical	1121-0526
<b>PS-80 Soldering Iron Tip Kit</b>		<b>6993-0158</b>
<i>Includes five each of the following tips:</i>	1/32" Conical	1121-0336
	1/16" Chisel	1121-0414
	1/8" Chisel	1121-0337
	Single Sided Chisel	1121-0406
<i>Includes one each of the following tips:</i>	SOIC-16 (JEDEC)	1121-0392
	SOIC-28 (JEDEC)	1121-0396
	TSOP	1121-0403
	Flat Blade Tip (0.25")	1121-0402
	Redi-Rak	6021-0007-P1

# PACE Tip Kits

## SX-80 / SX-70 Desoldering Tip Kit

DESCRIPTION	TYPE/SIZE	PART NUMBERS
<b>Endura Tip Kit</b>		<b>6993-0212</b>
<i>Includes one of each of the following tips:</i>	Thermo-Drive (0.30" I.D.)	1121-0625
	Thermo-Drive (0.40" I.D.)	1121-0624
	Thermo-Drive (0.060" I.D.)	1121-0626
	Thermo-Drive (0.090" I.D.)	1121-0627
	Precision (0.020" I.D.)	1121-0680
	Precision (0.030" I.D.)	1121-0678
	Precision (0.040" I.D.)	1121-0679
	Flo-D-Sodr (0.060" I.D.)	1121-0631

## TJ-70/TP-65/TT-65 Tip Kits

DESCRIPTION	TYPE/SIZE	PART NUMBERS
<b>TJ-70/65 ThermoJet Tip Kit</b>		<b>6993-0159</b>
<i>Includes one each of the following tips:</i>	Curved Single Jet (0.06" I.D.)	1121-0338
	SOT/Chip Component (Dual Tip)	1121-0329
	SOIC Tip (Dual Tip)	1121-0330
	Flat End Tip (0.28")	1121-0365
	Flat End Tip (0.24")	1121-0371
	Redi-Rak	6021-0007-P1
<b>TP-65 ThermoPik Tip Kit</b>		<b>6993-0160</b>
<i>Includes one each of the following tips:</i>	Flat Pack	1121-0322-002
	PQFP-68 (bumper pack)	1121-0323
	PQFP-84	1121-0324
	PQFP-100	1121-0325
	PQFP-160, 208	1121-0351
	Redi-Rak	6021-0007-P1
<b>TT-65 ThermoTweez Tip Kit</b>		<b>6993-0161</b>
<i>Includes one each of the following tips:</i>	PLCC-28	1121-0317
	PLCC-44, PQFP-84	1121-0318
	PLCC-68, PQFP-132	1121-0320
	Chip Component (0.08")	1121-0313
	SOIC, SOJ (0.07")	1121-0416
	Redi-Rak	6021-0007-P1

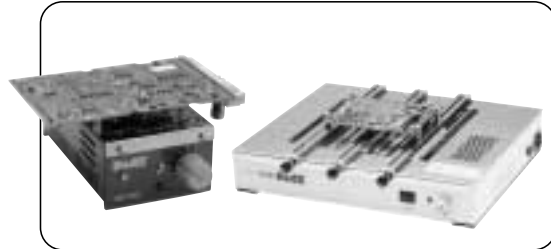
## SMT Tip Kit

DESCRIPTION	TYPE/SIZE	PART NUMBERS
<b>SMT SensaTemp Tip Kit</b>		<b>6993-0171</b>
<i>Includes five each of the following tips:</i>	Flo-D-Sodr (0.060")	1121-0369
	Mini-Wave	1121-0490
<i>Includes one each of the following tips:</i>	Chip Component	1121-0303
	Chip Component (0.08")	1121-0313
	PLCC-20	1121-0316
	PLCC-28	1121-0317
	PLCC-68, PQFP-132	1121-0320
	Flat Pack	1121-0322-002
	SOIC-14 (JEDEC)	1121-0391
	SOIC-20 (JEDEC)	1121-0394
	Flat Blade Tip (0.7")	1121-0416
	Tip Brite (To be used with PACE Tip Kits)	1102-00160-P1

# Support Products



Sensatemp  
Accessories



## HS Heat Wave System

DESCRIPTION	PART NUMBERS
<b>HS 200 Heat Wave Convective/Conductive Preheating System</b> Domestic Version	8007-0231
<b>HS 200E Heat Wave Convective/Conductive Preheating System</b> Export Version	8007-0232
<i>Complete Consisting of:</i>	
Power Source (PPS-28E)	(not available separately)
5.5" Heating Plate	1335-0177
Heater Unit Assembly (115V)	6010-0010-01
Heater Unit Assembly (230V)	6010-0090-02
Standard Board Holder (maximum 8" boards)	-----
Heat Shield	1335-0227
PV-65 Pik-Vac Vacuum Wand	7027-0001-P1

## HS 200 / Optional Items and Replacement Parts

DESCRIPTION	PART NUMBERS
<b>Large Board Holder</b> (maximum 18" boards)	6018-0095
5.5" Heating Plate	1335-0177
Flo-Pump assembly	1336-0034-P1
Replacement Heater Assembly (115V)	1283-0087-01
Replacement Heater Assembly (230V)	1283-0087-02
Board Support (bottom side)	6993-0197-P1
Fuse, 1.0A (Domestic Systems only)	1159-0246-P5
Fuse, 0.5A (Export Systems only)	1159-0213-P5
Power Cord	1332-0093
Main Power Switch	1157-0052

## HS 300 / Optional Items and Replacement Parts

DESCRIPTION	PART NUMBERS
<b>HS 300 Pre-Heater</b>	8007-0344
<b>HS 300E Pre-Heater</b>	8007-0345
<i>Complete Consisting of:</i>	
HS 300 Pre-Heater	(not available separately)
Power Cord	(not available separately)
PCB Support Pins (5)	(not available separately)
PCB Holder Pins (4)	(not available separately)
PCB Support Rails (3)	(not available separately)

## HS 100 / Optional Items and Replacement Parts

DESCRIPTION	PART NUMBERS
<b>HS 100 Pre-Heater</b>	8007-0358-P1
<b>HS 100E Pre-Heater</b>	8007-0359-P1
<i>Complete Consisting of:</i>	
HS 100 Pre-Heater	(not available separately)
Power Cord	(not available separately)
External Support (2)	(not available separately)
PCB Support Pins (2)	(not available separately)

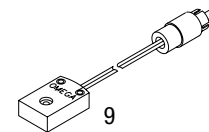
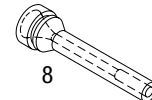
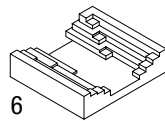
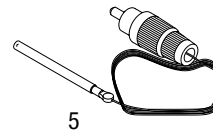
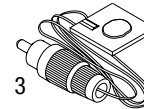
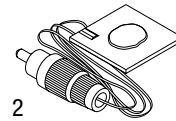
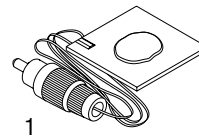
# Support Products

## Process Monitor for Soldering/Desoldering Systems

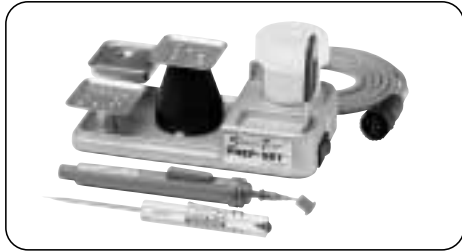
DESCRIPTION	PART NUMBERS
<b>Process Monitor System</b> Domestic Version	Obsolete
<b>Process Monitor System</b> Export version	Obsolete

## Process Monitor / Replacement Parts and Optional Items

ITEM NUMBERS	DESCRIPTION	PART NUMBERS
1	Load Coupon Assy, 1.25 - for Thermal Performance Tests	7021-0007-P1
2	Load Coupon Assy, 1.00 - for Thermal Performance Tests	7021-0006-P1
3	Load Coupon Assy, .75 - for Thermal Performance Tests	7021-0005-P1
4	Embedded Tip Assy, 4.76mm (3/16") - for Temperature Tests	7021-0004-P1
5	Embedded Tip Assy, 3.18mm (1/8") - for Temperature Tests	7021-0003-P1
6	Load Coupon Holder	1500-0011
7	PC Board Probe, 50.8mm (2") - for EOS/ESD Tests	1200-0130-P5
8	Beaded Thermocouple Wire Assy	1332-0165-P1
9	Replacement Vacuum Fitting	1140-0036
	RCA to Omega-style (K-type) Thermocouple Adapter	1332-0164-P1
	x100 Attenuator Test Probe Board	6020-0081-P1
	Soft Touch Thermocouple Wand Handle	1119-0081
	PM DataStore Software Package with cable (MS-DOS 3.5", 720Kb diskette)	6993-0163
	Banana Plug Patch Cord, 609.60mm (24")	1332-0166
	AC Adapter (220 VAC)	7019-0005
	PCB Assembly, Display, PPM100E	6020-0077
	PCB Assembly, Main, PPM 100E	6020-0078



# Support Products



## SensaTemp Accessories

### PS 10 Prep-Set Accessory

DESCRIPTION	PART NUMBERS
<b>PS 10 Prep-Set, Line Voltage Tinning System</b> (230 VAC) Domestic Version	Obsolete
<b>PS 10E Prep-Set, Line Voltage Tinning System</b> (230 VAC) Export Version	Obsolete
<i>Complete, Consisting of:</i>	
Heater Assembly	6010-0087-P1
Pot-Tip, 38mm (1.5") square	1321-0267
Pot-Tip, 38mm (1.5") diameter	1321-0268
Pot-Tip, 25.4mm (1.0") diameter	1321-0269
Liquid Container with Lid	-----
Dross Removal Tool	1100-0238
PACE Screwdriver	1100-0230
HP-65 HandiPik	7028-0001-P1

### PS 50 Prep-Set System

DESCRIPTION	PART NUMBERS
<b>PS 50 Prep-Set Accessory</b> (must be attached to a PACE SensaTemp system)	Obsolete
<i>All Systems Include:</i>	
Prep-Set Base Assembly, with Heater Assembly	
Dross Removal Tool	1100-0238
HandiPik Component Handling Tool	7028-0001
PACE Screwdriver	1100-0230
Heater Assembly	6019-0089-P1
Pot-Tip 25.4mm diameter x 22mm deep (1" diameter x 0.875" deep)	1321-0269
Pot-Tip 38mm diameter x 9.5mm deep (1.5" diameter x 0.375" deep)	1321-0268
Pot-Tip 38mm square x 6.4mm deep (1.5" square x 0.25" deep)	1321-0267
Preheat Plate** 38mm square (1.5" square)	1321-0272
Flux Container*, 29.6ml (1.0 oz.), with Lid	1311-0112
Operation/Instruction Manual	

\*Flux not included.

\*\* Not included with PS 10

### PS 100 Programmable Solder Bath

DESCRIPTION	PART NUMBERS
<b>PS 100 Programmable Solder Bath</b> Domestic Version	Obsolete
<b>PS 100E Programmable Solder Bath</b> Export Version	Obsolete
<i>Complete, Consisting of:</i>	
Power Source (PPS-27E)	-----
88.9mm (3.5") diameter, bath	1321-0290
Replacement Heater Assembly	1287-0087-01
Replacement Heater Assembly	1287-0087-02
Container With Lid (4 oz.)	1311-0115
Container Support Bracket	1257-0200
Dross Tray Assembly	1321-0293
Dross Removal Tool	1100-0240
PV-65 Pik-Vac Vacuum Wand	7027-0001-P1

# Support Products

## ThermoBond Cir-Kits



ITEM DESCRIPTION	PART NUMBERS
<p><b>ThermoBond Cir-Kit, Surface Mount Version</b></p> <p><i>Complete Consisting of:</i></p> <p><b>ThermoBond Frames</b> (solder plated on one side):</p> <p>Chip Resistor/Capacitor</p> <p>Inductors, MELFs, Tantalum Capacitors</p> <p>SOTs</p> <p>SOICs, TSOPs</p> <p>PLCCs, LCCCs, SOJs, Ceramic QFPs, Basic Cir-Kit Material and Dry Film Adhesive for Custom Shaping/Cutting</p> <p>PQFPs</p> <p><i>Other Accessories:</i></p> <p>Abrasive Stick, 1 piece</p> <p>Kapton Tape, 12.7mm (0.5") x 76.2mm (3.0"), 10 pieces</p> <p>Provis Kit (for cutting and scraping)</p> <p>Fine Angled Tweezers</p> <p>Cutting Board</p> <p>ThermoBond Tips</p>	<p><b>6993-0176</b></p> <p>ThermoBond Cir-Kit Frames pictured on page 37</p> <p>1200-0147-01</p> <p>1200-0148-01</p> <p>1200-0149-01</p> <p>1200-0150-01</p> <p>1200-0151-01</p> <p>1200-0152-01</p> <p>See spare parts on page 39</p> <p>See spare parts on page 39</p> <p>7016-0003-P1</p> <p>1100-0043</p> <p>1143-0009</p> <p>ThermoBond Tips Part Numbers on page 38</p>
<p><b>ThermoBond Cir-Kit, Thru-Hole Version</b></p> <p><i>Complete Consisting of:</i></p> <p><b>ThermoBond Frames</b> (solder plated on one side):</p> <p>Straight Run</p> <p>Fine Traces</p> <p>Variety Frame</p> <p>Track Pad</p> <p>DIP Pad 1200-0163-01</p> <p><b>Lap/Trace Frames</b> (solder plated on both sides):</p> <p>Straight Run</p> <p>Fine Traces</p> <p><i>Other Accessories:</i></p> <p>Eyelets and Funnelets (#s 4, 5, 6, 8, 10, 21)</p> <p>Abrasive Stick, 1 piece</p> <p>Kapton Tape, 12.7mm (0.5") x 76.2mm (3.0"), 10 pieces</p> <p>Fine Angled Tweezers</p> <p>Cutting Board</p> <p>Upper Setting Tool</p> <p>Setting Tool Guide</p> <p>Lower Setting Tool, Funnelet</p> <p>Support Tool Base</p> <p>Provis Kit (for cutting and scraping)</p> <p>ThermoBond Tips</p>	<p><b>6993-0179</b></p> <p>ThermoBond Cir-Kit Frames pictured on page 37</p> <p>1200-0158-01</p> <p>1200-0159-01</p> <p>1200-0160-01</p> <p>1200-0161-01</p> <p>ThermoBond Cir-Kit Frames pictured on page 37</p> <p>1200-0164-01</p> <p>1200-0165-01</p> <p>Eyelets and Funnelets Part Numbers on page 40</p> <p>See spare parts on page 39</p> <p>See spare parts on page 39</p> <p>1100-0043</p> <p>1143-0009</p> <p>6000-0051</p> <p>6000-0054</p> <p>1132-0017</p> <p>1321-0054</p> <p>7016-0003-P1</p> <p>ThermoBond Tips Part Numbers on page 39</p>

# Support Products

## ThermoBond Cir-Kits

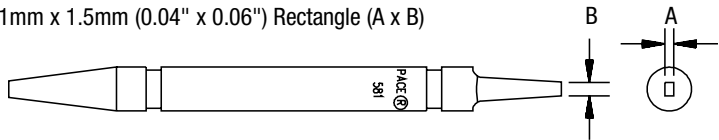
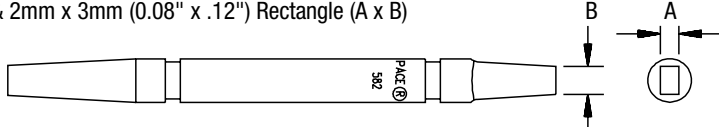
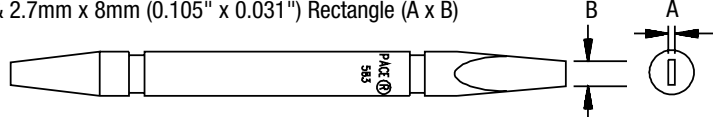
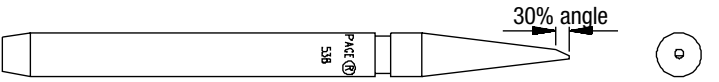
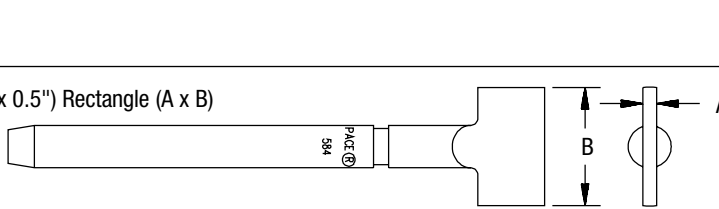
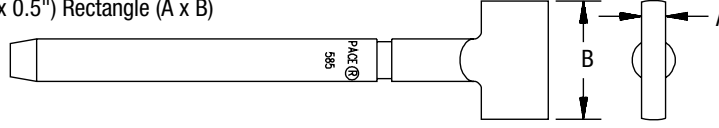
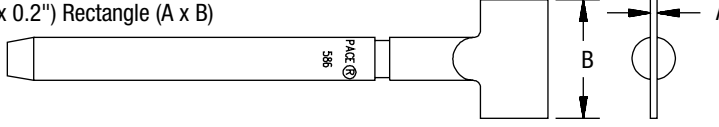
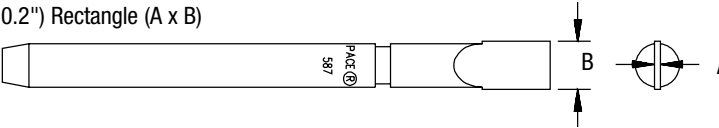
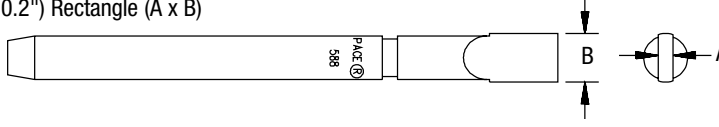
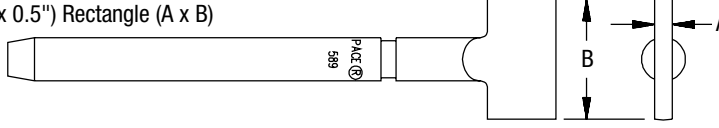
ITEM DESCRIPTION	PART NUMBERS
<p><b>ThermoBond Cir-Kit, Combo SMT/Thru-Hole Version</b>            (A Selection for Mixed Technology Repairs)  <i>Complete Consisting of:</i></p> <p><b>ThermoBond Frames</b> (solder plated on one side):            Chip Resistor/Capacitor            SOICs, TSOPs            PLCCs, LCCCs, SOJs, Ceramic QFPs, Basic Cir-Kit Material            and Dry Film Adhesive for Custom Shaping/Cutting            Straight Run            Fine Traces            Track Pad</p> <p><b>Lap/Trace Frames</b> (solder plated on both sides):            Fine Traces</p> <p><i>Other Accessories:</i>            Eyelets and Funnelets (#'s 4, 5, 6, 8, 10)            Abrasive Stick, 1 piece            Kapton Tape, 12.7mm (0.5") x 76.2mm (3.0"), 10 pieces            Fine Angled Tweezers            Cutting Board            Upper Setting Tool            Setting Tool Guide            Lower Setting Tool, Funnelet            Support Tool Base            Provis Kit (for cutting and scraping)            ThermoBond Tips</p>	<p><b>6993-0180</b></p> <p>ThermoBond Cir-Kit Frames pictured on page 37            1200-0147-01            1200-0150-01            1200-0151-01            1200-0158-01            1200-0159-01            1200-0161-01            ThermoBond Cir-Kit Frames pictured on page 37            1200-0165-01</p> <p>Eyelets and Funnelets Part Numbers on page 40            See spare parts on pages 39            See spare parts on page 39            1100-0043-P1            1143-0009            6000-0051            6000-0054            1132-0017-P1            1321-0054            7016-0003-P1            ThermoBond Tips Part Numbers on page 38</p>
<p><b>ThermoBond Cir-Kit, Edge Connector Version</b>  <i>Complete Consisting of:</i></p> <p><b>ThermoBond Frames</b> (solder plated on one side):            Edge Connector (gold plated)</p> <p><b>Lap/Trace Frames</b> (solder plated on both sides):            Straight Run</p> <p><i>Other Accessories:</i>            Abrasive Stick, 1 piece            Kapton Tape, 12.7mm (0.5") x 76.2mm (3.0"), 10 pieces            Fine Angled Tweezers            Cutting Board            Provis Kit (for cutting and scraping)            ThermoBond Tips</p>	<p><b>6993-0182</b></p> <p>ThermoBond Cir-Kit Frames pictured on page 37            1200-0162-02            ThermoBond Cir-Kit Frames pictured on page 37            1200-0164-03</p> <p>See spare parts on page 39            See spare parts on page 39            1100-0043-P1            1143-0009            7016-0003-P1            ThermoBond Tips Part Numbers on page 38</p>

# ThermoBond Cir-Kit Frames

<p>1200-0147</p>	<p>1200-0148</p>	<p>1200-0149</p>	<p>1200-0150</p>
<p>Chip Resistor/Capacitor</p>	<p>Inductors, MELFS, Tantalum Capacitors</p>	<p>SOTs</p>	<p>SOICs, TSOPs</p>
<p>1200-0151</p>	<p>1200-0152</p>	<p>1200-0158</p>	<p>1200-0159</p>
<p>PLCCs, LCCCs, Ceramic QFPs</p>	<p>PQFPs</p>	<p>Straight Run Lap Lace Version (1200-0164)</p>	<p>Fine Traces Lap Lace Version (1200-0165)</p>
<p>1200-0160</p>	<p>1200-0161</p>	<p>1200-0162</p>	<p>1200-0163</p>
<p>Variety Frame</p>	<p>Track Pad</p>	<p>Edge Connector (Gold Plated)</p>	<p>Dip Pad</p>



# ThermoBond Tips

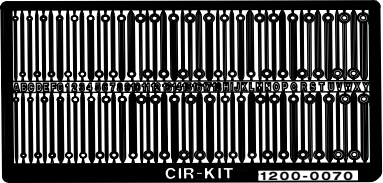
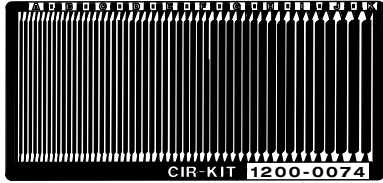
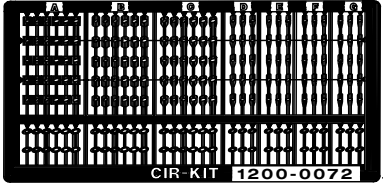
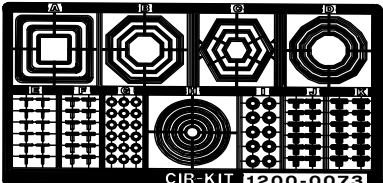
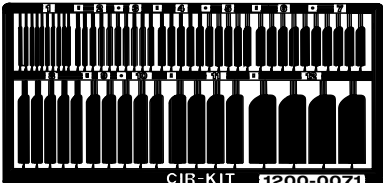
DESCRIPTION	PART NUMBERS
<b>Double Sided Tips</b>	
1.8mm (0.07") diameter & 1mm x 1.5mm (0.04" x 0.06") Rectangle (A x B) 	1121-0581-P1
3.2mm (0.125") diameter & 2mm x 3mm (0.08" x .12") Rectangle (A x B) 	1121-0582-P1
2.4mm (0.096") diameter & 2.7mm x 8mm (0.105" x 0.031") Rectangle (A x B) 	1121-0583-P1
<b>Single Sided Tips</b>	
30 Degree Ellipse 	1121-0538-P1
1.6mm x 12.7mm (0.062" x 0.5") Rectangle (A x B) 	1121-0584-P1
2.8mm x 12.7mm (0.110" x 0.5") Rectangle (A x B) 	1121-0585-P1
0.8mm x 12.7mm (0.025" x 0.2") Rectangle (A x B) 	1121-0586-P1
0.6mm x 5.1mm (0.062" x 0.2") Rectangle (A x B) 	1121-0587-P1
1.6mm x 5.1mm (0.062" x 0.2") Rectangle (A x B) 	1121-0588-P1
1.9mm x 12.7mm (0.077" x 0.5") Rectangle (A x B) 	1121-0589-P1

# Support Products

## Non-Thermobond Cir-Kits / Replacement Parts

DESCRIPTION	PART NUMBERS
<b>ThermoBond Cir-Kit, Combo SMT/Thru-Hole Version</b>	
Abrasive Stick	1129-0014-P10
Setting Tool Assembly, Upper Setting Tool	6000-0051
Setting Tool Guide	6000-0054
Support Tool, Lower Setting Tool	1132-0017
Support Tool Base	1321-0054
Edge Connector Clamp Assembly	6000-0130
Bonding Kit	6999-0005
Kapton Tape, 12.7mm (0.5") x 76.2mm (3.0") 25 pieces	1289-0016-01-P25

## Non-ThermoBond Cir-Kit Frames / Optional Items and Replacement Parts

ITEM	DESCRIPTION	PART NUMBERS
 <p>CIR-KIT 1200-0070</p> <p>Track Pad Frame, (Selector Type)</p>	<p>Track Pad Frame, (Selector Type)</p> <p>Trak-Pad Frame, choice of one size A, B, C, D, E, G, H, K, M, O, P, S, W, X, Y</p>	<p>1200-0070</p> <p>1200-0011 (letter size)</p>
 <p>CIR-KIT 1200-0074</p> <p>Straight Run Frame</p>	<p>Straight Run Frame</p> <p>Fine-Traces Frame</p>	<p>1200-0074</p> <p>1200-0118</p>
 <p>CIR-KIT 1200-0072</p> <p>DIP Pad Frame</p>	<p>Dip Pad Frame</p>	<p>1200-0072</p>
 <p>CIR-KIT 1200-0073</p> <p>Variety Frame (Angles, T's, Pads)</p>	<p>Variety Frame (Angles, T's, Pads)</p>	<p>1200-0073</p>
 <p>CIR-KIT 1200-0071</p> <p>Edge Connector Frame</p>	<p>Edge Connector Frame</p>	<p>1200-0071</p>
	<p>ThermoBond Tip for use with the PS-80</p> <p>* These Frames do not have a dry-film adhesive backing.</p>	<p>See previous page 38</p>

# Accessories

## Eyelets and Funnelets – Cross Reference to Drills and Ball Mills

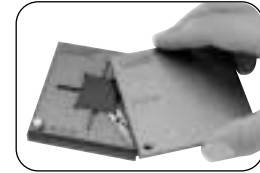
DESCRIPTION	BOARD THICKNESS	BARREL O.D.	LENGTH UNDER FLANGE	BARREL I.D.	FLANGE DIA.	PART NUMBER	BALL MILL/ DRILLS PART NUMBER
<b>Eyelets and Funnelets -Cross Referenced to Drills and Ball Mills</b>							
1) Funnelet	0.79mm (1/32")	0.97mm (.038")	0.74mm (.029")	1.19mm (.047")	1.65mm (.065")	1347-0001	1112-0010
2) Funnelet	1.59mm (1/16")	1.52mm (.060")	1.22mm (.048")	2.24mm (.088")	2.41mm (.095")	1347-0002	1112-0004
3) Funnelet	0.40mm (1/64")	1.19mm (.047")	0.91mm (.036")	1.32mm (.052")	2.08mm (.082")	Obsolete	1112-0003
4) Funnelet	0.79mm (1/32")	1.19mm (.047")	0.91mm (.036")	1.57mm (.062")	2.03mm (.080")	1347-0007	1112-0003
5) Funnelet	1.59mm (1/16")	1.19mm (.047")	0.91mm (.036")	2.16mm (.085")	2.03mm (.080")	1347-0009	1112-0003
6) Funnelet	2.38mm (3/32")	1.19mm (.047")	0.91mm (.036")	3.00mm (.118")	2.03mm (.080")	1347-0010	1112-0003
7) Eyelet	0.25mm (1/100")	0.76mm (.030")	0.53mm (.021")	0.79mm (.031")	1.17mm (.046")	Obsolete	1112-0002
8) Eyelet	0.40mm (1/64")	0.76mm (.030")	0.53mm (.021")	1.27mm (.050")	1.17mm (.046")	1347-0013	1112-0002
9) Eyelet	1.19mm (3/64")	0.76mm (.030")	0.53mm (.021")	1.98mm (.078")	1.17mm (.046")	Obsolete	1112-0002
10) Eyelet	1.59mm (1/16")	0.76mm (.030")	0.53mm (.021")	2.24mm (.088")	1.17mm (.046")	1347-0016	1112-0002
11) Eyelet	1.59mm (1/16")	0.76mm (.030")	0.53mm (.021")	2.39mm (.094")	1.17mm (.046")	1347-0017	1112-0002
12) Eyelet	3.18mm (1/8")	0.76mm (.030")	0.53mm (.021")	4.42mm (.174")	1.17mm (.046")	1347-0019	1112-0002
13) Eyelet	0.79mm (1/32")	0.91mm (.036")	0.64mm (.025")	1.52mm (.060")	1.78mm (.070")	1347-0022	1112-0010
14) Eyelet	2.38mm (3/32")	1.19mm (.047")	0.91mm (.036")	3.10mm (.122")	2.03mm (.080")	1347-0024	1112-0003
15) Eyelet	1.59mm (1/16")	1.17mm (.046")	0.91mm (.036")	2.36mm (.093")	1.98mm (.078")	1347-0026	1112-0003
16) Eyelet	3.18mm (1/8")	0.76mm (.030")	4.42mm (.174")	1.17mm (.046")	0.53mm (.021")	1347-0029	1112-0002
17) Eyelet	1.19mm (3/64")	1.17mm (.046")	0.86mm (.034")	1.91mm (.075")	1.93mm (.076")	Obsolete	1112-0003
18) Eyelet	1.59mm (1/16")	1.73mm (.068")	1.47mm (.058")	2.59mm (.102")	2.90mm (.114")	1347-0036	1112-0004
19) Eyelet	1.59mm (1/16")	1.02mm (.040")	0.89mm (.035")	2.36mm (.093")	1.52mm (.060")	1347-0039	1112-0010
20) Funnelet	2.38mm (3/32")	1.93mm (.076")	1.63mm (.064")	2.31mm (.091")	2.79mm (.110")	1347-0042	1112-0034
21) Funnelet	0.40mm (1/64")	0.99mm (.039")	0.69mm (.027")	1.30mm (.051")	1.57mm (.062")	1347-0050	1112-0010
22) Funnelet	0.79mm (1/32")	0.99mm (.039")	0.69mm (.027")	1.68mm (.066")	1.57mm (.062")	1347-0051	1112-0010
23) Funnelet	1.19mm (3/64")	0.99mm (.039")	0.69mm (.027")	2.21mm (.087")	1.57mm (.062")	1347-0052	1112-0010
24) Funnelet	1.59mm (1/16")	0.99mm (.039")	0.69mm (.027")	2.49mm (.098")	1.57mm (.062")	1347-0053	1112-0010
25) Funnelet	2.38mm (3/32")	0.99mm (.039")	0.69mm (.027")	3.28mm (.129")	1.57mm (.062")	1347-0054	1112-0010
26) Eyelet	1.59mm (1/16")	1.50mm (.059")	1.22mm (.048")	2.36mm (.093")	2.29mm (.090")	1347-0055	1112-0004
27) Funnelet	1.59mm (1/16")	1.17mm (.046")	0.91mm (.036")	2.54mm (.100")	1.93mm (.076")	1347-0056	1112-0003
28) Funnelet	1.59mm (1/16")	1.02mm (.040")	0.76mm (.030")	1.91mm (.075")	1.57mm (.062")	1347-0057	1112-0010
29) Funnelet	0.79mm (1/32")	1.19mm (.047")	0.94mm (.037")	1.57mm (.062")	2.03mm (.080")	Obsolete	1112-0003

Note: Counts of eyelets and funnelets are approximate and dimensions are  $\pm 10\%$ .

## Accessories

### Component Stenciling Kits

**Component stenciling tools do not include stencils. Stencils are purchased separately as required by solder ball count geometry on component packages. Both the component stenciling tool and a stencil are required to apply solder paste to the component.**



COMPONENT HOLDER	PART NUMBERS	OPTIONAL STENCILS	PART NUMBERS
Component Stenciling Tool, 35mm - 4	7016-0006	Stencil, 35mm x 388	1035-0388-P1
Component Stenciling Tool, 35mm - 2	7016-0030	Stencil, 35mm x 456	1035-0456-P1
		Stencil, 35mm x 313	1035-0313-P1
		Stencil, 35mm x 352	1035-0352-P1
		Stencil, 35mm x 480	1035-0480-P1
Component Stenciling Tool, 27mm - 4	7016-0007	Stencil, 27mm x 352	1027-0352-P1
Component Stenciling Tool, 27mm - 2	7016-0029	Stencil, 27mm x 316	1027-0316-P1
		Stencil, 27mm x 225	1027-0225-P1
		Stencil, 27mm x 256	1027-0256-P1
		Stencil, 27mm x 272	1027-0272-P1
		Stencil, 27mm x 292	1027-0292-P1
		Stencil, 27mm x 324	1027-0324-P1
		Stencil, 27mm x 328	1027-0328-P1
		Stencil, 27mm x 336	1027-0336-P1
Component Stenciling Tool, 23mm - 2	7016-0008	Stencil, 23mm x 169	1023-0169-P1
Component Stenciling Tool, 23mm - 4	7016-0013	Stencil, 23mm x 288	1023-0288-P1
		Stencil, 23mm x 324	1023-0324-P1
		Stencil, 23mm x 208	1023-0208-P1
		Stencil, 23mm x 256	1023-0256-P1
		Stencil, 23mm x 484	1023-0484-P1
Component Stenciling Tool, 17mm - 2	7016-0009	Stencil, 17mm x 208	1017-0208-P1
Component Stenciling Tool, 17mm - 4	7016-0012	Stencil, 17mm x 256	1017-0256-P1
Component Stenciling Tool, 15mm - 2	7016-0010	Stencil, 15mm x 156	1015-0156-P1
Component Stenciling Tool, 15mm - 1	7016-0023	Stencil, 15mm x 160	1015-0160-P1
		Stencil, 15mm x 196	1015-0196-P1
		Stencil, 15mm x 196	1015-0196-P1
Component Stenciling Tool, 13mm - 2	7016-0011	Stencil, 13mm x 144	1013-0144-P1
Component Stenciling Tool, 13mm x 10mm	7016-0027	Stencil, 13mm x 64	1013-0064-P1
Component Stenciling Tool, 12mm CSP	7016-0014	Stencil, 12mm x 144	1012-0144-P1
		Stencil, 12mm x 160	1012-0160-P1

Number after component dimension represents number of layers in components substrate. Number after dimension of stencil represents ball count.

# Accessories

## Component Stenciling Kits

COMPONENT HOLDER	PART NUMBERS	OPTIONAL STENCILS	PART NUMBERS
Component Stenciling Tool, 11mm x 8mm CSP	7016-0015	Stencil, 11mm x 8 x 72	1011-0072-P1
Component Stenciling Tool, 40mm	7016-0016	Stencil, 40mm x 503	1040-0503-P1
Component Stenciling Tool, 40mm	7016-0025	Stencil, 40mm x 432	1040-0432-P1
Component Stenciling Tool, 25mm - 2	7016-0017	Stencil, 25mm x 357	1025-0357-P1
Component Stenciling Tool, 25mm - 4	7016-0020	Stencil, 25mm x 360	1025-0360-P1
Component Stenciling Tool, 19mm	7016-0018	Stencil, 19mm x 225	1023-0256-P1
Component Stenciling Tool, 19mm Socket	7016-0026	Stencil, 19mm x 52	1023-0052-P1
Component Stenciling Tool, 16.5 x 8mm, CSP	7016-0019	Stencil, 16.5 x 8 x 52	1016-0052-P1
Component Stenciling Tool, 33mm - 4	7016-0021	Stencil, 33mm x 503	1033-0503-P1
Component Stenciling Tool, 22mm x 14mm	7016-0022	Stencil, 14 x 22 x 119	1014-0119-P1
Component Stenciling Tool, 4mm LCC with Pedestal Top	7016-0024	Stencil, 4mm x 24 Stencil, 4mm x 28 Stencil, 4mm x 24	1004-0024-P1 1004-0028-P1 1004-2024-P1
Component Stenciling Tool, 31mm - 2	7016-0028	Stencil, 31mm x 304	1031-0304-P1
Component Stenciling Tool, 31mm - 4	7016-0032	Stencil, 31mm x 329 Stencil, 31mm x 316	1031-0329-P1 1031-0316-P1
Component Stenciling Tool, 8mm x 10mm	7016-0031	Stencil, 8mm x 48	1008-0048-P1
Component Stenciling Tool, PLCC 28	7016-0033	Stencil, PLCC 28	1012-0028
Component Stenciling Tool, 9mm	7016-0034	Stencil, 9mm x 56	1009-0056
Component Stenciling Tool, 24mm - 4	7016-0035	Stencil, 24mm x 241	1024-0241
Component Stenciling Tool, 6mm	7016-0036	Stencil, 6mm x 40	1006-0040

Number after component dimension represents number of layers in components substrate. Number after dimension of stencil represents ball count.

## Accessories



### BGA Reballer Kits

Reballer kits contain everything you need to reball components: flux, solder spheres, tweezer, brush, and reballing fixture with additional screen. Components can be reflowed using the TF 2000 (standard or L version) or a reflow oven.

DIMENSIONS	PART NUMBERS	DIMENSIONS	PART NUMBERS
Kit, Reballer BGA 36	4017-0001-P1	Kit, Reballer BGA 352	4017-0051-P1
Kit, Reballer BGA 40	4017-0002-P1	Kit, Reballer SPBGA 352	4017-0052-P1
Kit, Reballer FPBGA 44	4017-0003-P1	Kit, Reballer SBGA 352	4017-0053-P1
Kit, Reballer UBGA 46-33MB	4017-0004-P1	Kit, Reballer TBGA 352	4017-0054-P1
Kit, Reballer UBGA 46-16MB	4017-0005-P1	Kit, Reballer BGA 356	4017-0055-P1
Kit, Reballer BGA 48	4017-0008-P1	Kit, Reballer PBGA 357	4017-0056-P1
Kit, Reballer UBGA 62	4017-0009-P1	Kit, Reballer CBGA 360	4017-0058-P1
Kit, Reballer FPBGA 64	4017-0010-P1	Kit, Reballer BGA 388	4017-0059-P1
Kit, Reballer FPBGA 69	4017-0011-P1	Kit, Reballer BGA 400	4017-0060-P1
Kit, Reballer BGA 69	4017-0012-P1	Kit, Reballer BGA 404	4017-0061-P1
Kit, Reballer FPBGA 72	4017-0013-P1	Kit, Reballer BGA 421	4017-0062-P1
Kit, Reballer LFPBGA 84	4017-0014-P1	Kit, Reballer BGA 428	4017-0063-P1
Kit, Reballer BGA 100	4017-0015-P1	Kit, Reballer PBGA 432	4017-0064-P1
Kit, Reballer BGA 108	4017-0016-P1	Kit, Reballer BGA 452	4017-0066-P1
Kit, Reballer BGA 119	4017-0017-P1	Kit, Reballer BGA 456	4017-0067-P1
Kit, Reballer BGA 131	4017-0018-P1	Kit, Reballer TBGA 480	4017-0068-P1
Kit, Reballer BGA 144	4017-0019-P1	Kit, Reballer BGA 480	4017-0069-P1
Kit, Reballer UBGA 144	4017-0021-P1	Kit, Reballer BGA 492	4017-0070-P1
Kit, Reballer BGA 168	4017-0022-P1	Kit, Reballer TBGA 500	4017-0071-P1
Kit, Reballer BGA 169	4017-0023-P1	Kit, Reballer BGA 548	4017-0072-P1
Kit, Reballer BGA 180	4017-0024-P1	Kit, Reballer BGA 553	4017-0073-P1
Kit, Reballer TBGA 192	4017-0025-P1	Kit, Reballer BGA 560	4017-0074-P1
Kit, Reballer BGA 192	4017-0026-P1	Kit, Reballer SBGA 560	4017-0075-P1
Kit, Reballer CBGA 196	4017-0027-P1	Kit, Reballer BGA 564	4017-0076-P1
Kit, Reballer UBGA 196	4017-0028-P1	Kit, Reballer CBGA 575	4017-0077-P1
Kit, Reballer BGA 208	4017-0029-P1	Kit, Reballer PBGA 600	4017-0078-P1
Kit, Reballer BGA 216	4017-0030-P1	Kit, Reballer SBGA 600	4017-0079-P1
Kit, Reballer BGA 217	4017-0031-P1	Kit, Reballer TBGA 696	4017-0080-P1
Kit, Reballer BGA 225	4017-0033-P1	Kit, Reballer BGA100	4017-0081-P1
Kit, Reballer BGA 255	4017-0034-P1	Kit, Reballer LFBGA100	4017-0082-P1
Kit, Reballer SBGA 256	4017-0035-P1	Kit, Reballer TFBGA48	4017-0083-P1
Kit, Reballer TBGA 256	4017-0036-P1	Kit, Reballer BGA233	4017-0084-P1
Kit, Reballer CBGA 256	4017-0037-P1	Kit, Reballer TFBGA64	4017-0085-P1
Kit, Reballer UBGA 256	4017-0038-P1	Kit, Reballer BGA177	4017-0086-P1
Kit, Reballer BGA 256	4017-0039-P1	Kit, Reballer BGA169/2	4017-0087-P1
Kit, Reballer BGA 257	4017-0040-P1	Kit, Reballer LFBGA80	4017-0088-P1
Kit, Reballer PBGA 272	4017-0041-P1	Kit, Reballer TFBGA48	4017-0089-P1
Kit, Reballer BGA 272	4017-0042-P1	Kit, Reballer TFBGA64	4017-0090-P1
Kit, Reballer BGA 292	4017-0043-P1	Kit, Reballer LFBGA64	4017-0091-P1
Kit, Reballer BGA 304	4017-0044-P1	Kit, Reballer LFBGA144	4017-0092-P1
Kit, Reballer BGA 313	4017-0046-P1	Kit, Reballer LFBGA132	4017-0093-P1
Kit, Reballer BGA 320	4017-0047-P1	Kit, Reballer TFBGA168	4017-0094-P1
Kit, Reballer TFBGA 324	4017-0048-P1	Kit, Reballer TFBGA100	4017-0095-P1
Kit, Reballer BGA 325	4017-0049-P1	Kit, Reballer LFBGA120	4017-0096-P1
Kit, Reballer BGA 348	4017-0050-P1		

Number after description refers to ball count.

# PACE Training



Since 1958, PACE has provided advanced technology training in all aspects of hand soldering, rework and repair.

## COURSE DESCRIPTION

**PCT-200 High Reliability Through Hole Soldering and PCB Repair:** This self-contained course in rework and repair for electronics is a comprehensive program designed to teach both the logic and skills needed to perform quality, non-destructive rework and repair on advanced, through-hole electronic assemblies, Multilayer and flexible circuits. This course covers the safe and reliable installation and removal methods for wire to terminal connections, through-hole axial leaded devices and Dual Inline Packages (DIP's). Also covered are the safe and reliable methods for repairing conductor damage, laminate burns and damage, plated through hole damage and edge connector damage as well as conformal coating identification and removal.

**PCT-300 Multilayer and Flexible Circuit Repair:** Repair of multilayered and flexible circuits present one of the most challenging tasks for the rework and repair operator. This in-depth course covers the various steps required to excavate a damaged internal trace on either type of material, repair the conductor and re-build the laminate material to the original surface. In addition, the repair of plated through holes and surface pads are also covered. Because of the highly specific nature of these repairs, this course is available onsite at your facility only.

**PCT-400 Surface Mount Rework and Repair:** This comprehensive hands on training course uses state-of-the-art PACE SMT equipment and covers the safe and reliable installation and removal methods for a wide variety of SMT components including: chip, SOT's, SOIC's, PLCC's, and QFP's. Also covered are the safe and reliable methods for repairing damaged surface conductors and lands. A variety of tools and techniques are utilized throughout the course allowing maximum versatility.

**PCT-500 Advanced Surface Mount Rework and Repair:** This advanced hands-on training course focuses on today's miniature and micro-miniature surface mounted components. Chip components as small as 0402, 20 mil pitch QFP's, TQFP's and TSOP's are covered. Additionally, heavy emphasis is placed on profiling, positioning, installation and removal of grid array style components such as BGA's and flip chips. Grid array component preparation including flux and/or solder paste stenciling, component re-balling and advanced inspection methods using X-ray are all covered. Finally, land replacement or repair is also practiced.

**PCT-20 Two-Day Surface Mount Rework and Repair:** This condensed version of our PCT-400 course covers the safe and reliable methods of removing and replacing a wide variety of surface mounted components. Chip components, SOT's, SOIC's, PLCC's and QFP's are all covered as well as the repair of lifted or damaged lands or traces. This course is available onsite at your facility only.

**PCT-30 Two-Day Through Hole Rework and Repair:** This condensed version of our PCT-200 covers the safe and reliable methods of installing and removing through-hole components such as axial leaded resistors and Dual Inline Packs (DIPS). Wire preparation and wire to terminal soldering is covered and practiced as is the repair of damaged pads and conductors. This course is available onsite at your facility only.

**PCT-40 Two-Day Mixed Technology Rework:** This course covers the safe and reliable installation and removal of both through-hole and surface mounted components. Axial leaded resistors, Dual Inline Packages (DIP's), surface mounted chip components, SOIC's, PLCC's and QFP's are all covered. This course is available onsite at your facility only.

# PACE Training

**PCT-50 Two-Day Printed Circuit Board Repair:** This course covers the safe and reliable procedures for the repair of damaged printed circuits boards and conductors. Damaged laminate material is excavated and repaired, pad and track repair as well as the installation of eyelets on through-hole assemblies are covered. Finally land and trace repair on surface mount assemblies are practiced. This course is available onsite at your facility only.

**PCT-60 Two-Day Advanced Surface Mount Rework:** This course provides an overview of today's advanced surface mount devices. The safe and reliable installation and removal of 0402 sized chip components, SOT's and 20 mil pitch TSOP's and QFP's are covered. BGA alignment, profiling and inspection are discussed. This course is available onsite at your facility only.

PACE is pleased to have teamed with the IPC to offer the following certification courses. These courses are conducted to the industry-approved standards and guidelines set forth by the IPC and successful graduates receive an IPC certification.

**J-STD-001C Operator Course:** This course covers the industry-approved specifications for electronics assembly manufacturing. The standard describes materials, methods and verification criteria for producing high quality soldered interconnections for both through hole and surface mounted components. This one-week course provides individuals with a valuable, portable credential that recognizes their understanding of the J-STD-001 standard.

**IPC 7711/7721 Operator Course:** This course covers the industry-approved procedures for repairing and reworking printed circuit boards. Through-hole soldering and desoldering, surface mount component installation and removal as well as physical repair of the printed circuit board assemblies including both laminate and conductor/trace repair are all covered. Successful graduates of this one-week course receive a certification good for two years.

**IPC 7711/7721 Instructor Course:** This course covers all aspects of the IPC 7711/7721 Operator course. In addition, operator proficiency requirements, materials review and instructional techniques are also covered. Successful graduates of this one-week course receive a two-year certification as a "Registered Instructor" and are qualified to teach and certify technicians in all modules of the IPC 7711/7721 Operator course.

## GENERAL COURSE INFORMATION

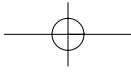
All PACE courses are 40-credit hours starting Monday mornings at 8:00 a.m. and concluding Friday at 1:00 p.m. Students are encouraged to bring actual samples of their production work to explore potential courses of rework and repair. Only scrap product should be brought as PACE will not guarantee EOS/ESD protection or product integrity.



# Accessories

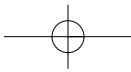
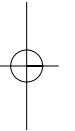
## Training Kits and Aides

DESCRIPTION	PART NUMBERS
<b>Soldering</b>	
Terminal Soldering Kit	6030-0062
Axial Lead Component Soldering Kit	6030-0063
I.C. Soldering Kit	6030-0019
Flat Pack Soldering Kit	6030-0065
Soldering Skill Evaluation Kit	6030-0001
<b>Repair</b>	
Repair Skills Development Kit	6030-0229
Desoldering Demonstration Board (Mounted Components)	6030-0011
Multilayer Training Kit	6993-0104
Flex-Circuit Training Kit	6993-0103
<b>Surface Mount</b>	
SMD Kit, Small Components (SOIC, chip caps, SOT, MELF)	6030-0017
Board only, for above	1200-0112
SMD Kit, Large Components (SOIC, QFP, PLCC-28, PLCC-68, SOLIC)	6030-0018
Board only, for above	1200-0185
Small Populated SMD Board	6020-0068
Large Populated SMD Board	6020-0106
Tip Kit for Large SMD Board	6993-0171
BGA Demo Board (Board only-Domestic)	1200-0184
BGA Demo Board (Board only-Export)	1200-0185
<b>Training Aids and Kits</b>	
Multilayer Tool Kit	6993-0122
<b>Replacement Parts</b>	
QFP 160	1187-0178-P24
TQFP 100	1187-0179-P90
TSOP 32	1187-0180-P156
PBGA 225	1187-0181
IC Flat Pack Type, 14 Lead	1200-0004-P100
SOIC 14-Pin, Dummy	1187-0081-P5
Chip Cap, 0805 Dummy	1187-0082-P10
Chip Cap, 1206 Dummy	1187-0083-P10
SOT-23 Transistor, Dummy	1187-0084-P10
PLCC-28 lead, Dummy	1187-0086-P3
PLCC-68 lead, Dummy	1187-0087-P3
SOICL-20 pin, Dummy	1187-0088-P3
Turret Terminals	1205-0012-P100
Hook Terminals	1205-0048
Bifurcated Terminals	1205-0013
Connector Pins	1205-0014
Epoxy Kit, Two-Part	1233-0004
FlatPack Forming Tool	6016-0012
Terminal Holding Block	6016-0017



**NOTES**

A large, empty rectangular box with rounded corners, intended for notes. The box is currently blank.



**PACE USA**

9893 Brewers Court  
Laurel, MD 20723  
U.S.A.

Tel: (301) 490-9860  
1-888-535-PACE (7223)  
Fax: (301) 498-3252

**PACE EUROPE**

Sherbourne House,  
Sherbourne Drive  
Tilbrook, Milton Keynes,  
MK7 8HX  
United Kingdom

Tel: (44) 1908 277666  
Fax: (44) 1908 277777

Arm-Evac, Mini-Wave, PACE, SensaTemp, Snap-Vac,  
Sodr-X-Tractor, Sodrtek, ThermoFlo, ThermoJet,  
ThermoTweeze, ToolNet and Visifilter are registered  
trade and/or service marks of PACE, Inc. Laurel, MD USA.

PACE products meet or exceed all applicable military  
and civilian EOS/ESD, temperature stability and other  
specifications, including MIL-Std-2000, ANSI/J-Std-001,  
and IPC-A-610.

©2001 PACE, Inc. Laurel, Maryland  
All rights reserved. Printed in USA.

Solutions for  
the electronics  
interconnection  
process

**PACE**<sup>®</sup>

[www.paceworldwide.com](http://www.paceworldwide.com)

Part #5400-0107 Rev. 6/01

## **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [pace manufacturer](#):*

Other Similar products are found below :

[8883-0111-P5](#) [1121-0690-P5](#) [1124-1004-P1](#) [1128-0003-P1](#) [1128-0019-P1](#) [1128-0012-P1](#) [1128-0001-P1](#) [1121-0416-P1](#) [1121-0399-P1](#) [6993-0317-P1](#) [8007-0510](#) [6993-0210](#) [8007-0455](#) [1128-0013-P1](#) [1121-0680-P5](#) [1121-0003-P2](#) [1121-0313-P1](#) [1124-0003](#) [6993-0316-P1](#) [8883-0931](#)  
[1131-0052-P1](#) [1129-0018-P1](#) [1128-0008-P1](#) [1124-0019-P1](#) [1124-0013-P1](#) [1121-0518-P5](#) [1124-0004-P1](#) [1128-0037-P1](#) [1121-0533-P5](#) [1309-0054-P10](#) [1121-0414-P5](#) [1128-0010-P1](#) [1309-0018-P50](#) [1121-0490-P5](#)