A WORLDWIDE COMMITMENT

With offices worldwide, PACE 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 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 for 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 and improving productivity.

Our strong commitment and history of achievement has resulted in an unparalleled range of Assembly, Repair and Fume Extraction solutions to meet your needs whether working to IS0-9000, industrial, military or your own internal specifications. Whatever the challenge, PACE stands ready to help you set a new standard.

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Fax: 301-498-3252

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Blakelands
Milton Keynes
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Fax: (44) 1908-277777

INTERNET

www.paceworldwide.com

P/N 5400-0134 02/05

A CUSTOMER COMMITMENT

In 2001 the distinguished Frost & Sullivan Award for the World Surface Mount Technology Rework and Repair Equipment Industry was bestowed upon PACE.

The Frost & Sullivan Market Engineering Customer Service Leadership Award is presented to companies that have demonstrated superior responsiveness to customer needs and value-added support in technology and services.

PACE was selected based upon independent research with customers, key market participants and even our competition. This award reiterates PACE's commitment to excellence from product concept to customer service in the field. Frost & Sullivan's research recognizes that the key to PACE's success in the industry is our interactive approach with customers to provide solutions and respond to end-user feedback when developing products.

In 2002 PACE was awarded World Class Status, signifying that PACE uses best practices in its design, development and manufacturing processes to provide the finest quality products to its customers at the lowest possible cost. The first Maryland based company to receive this coveted award, PACE stands alone in its market segment in achieving this highly regarded status.

SOLUTIONS FOR THE ELECTRONICS INTERCONNECTION PROCESS

The following are trademarks and/or service marks of PACE, Incorporated, Annapolis Junction, MD USA: INSTACAL™, ENDURA™, FUMEFLO™, HI-FLO™ MINITWEEZ™, PACEWORLDWIDE™, POWERMODULE™ and POWERPORT™.

The following are registered trademarks and/or service marks of PACE, Incorporated, Annapolis Junction, MD USA: ARM-EVAC®, FLO-D-SODR®, HEATWISE®, MINI-WAVE®, PACE®, PERMAGROUND®, SENSATEMP®, SNAP-VAC®, SODRTEK®, SODR-X-TRACTOR®, TEMPWISE®, THERMO-DRIVE®, THERMOFLO®, THERMOJET®, THERMOTWEEZ® and VISIFILTER®.

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, IPC 7711, IPC 7721 and IPC-A-610.

PACE®
worldwide

AREA ARRAY REWORK
TF 1700 & TF 2700

LEAD FREE
Pb
SOLDER COMPATIBLE
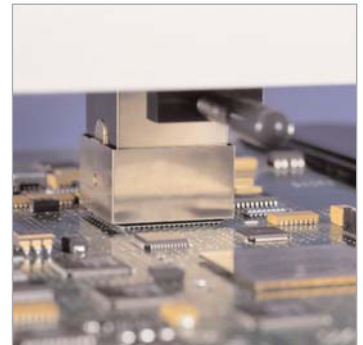
COMPONENT PICK-UP

ALIGNMENT/PLACEMENT
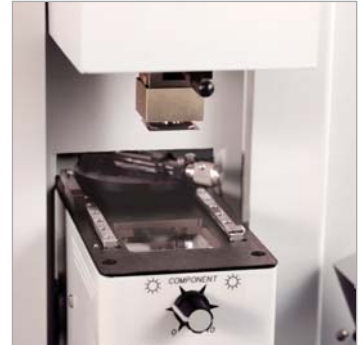
REFLOW

SOLUTIONS FOR THE ELECTRONICS INTERCONNECTION PROCESS

TOTAL SOLUTIONS

Ideal for post assembly rework, repair and low volume production operations

TF 1700

TF 2700 shown with optional workbench

PACE's ThermoFlo Systems (TF 1700 & TF 2700) are the next generation in automated, cost effective solutions for area array package rework. No other systems on the market have the advanced features found on these systems or is easier to use, ensuring operator acceptance and success! Designed for today's PCBs, ThermoFlo Rework Systems can safely install and remove a wide variety of CSPs, FCs, PBGAs, CBGAs, MLFs, LCCs, and other SMDs. The PC based software is so advanced that creating profiles has never been easier! The PC software guides the operator through an intuitive interface that virtually automates the process. All operations: component pick-up, alignment, placement, and reflow are completed in a single axis, eliminating the risk of component movement after placement. The PCB holders features fine micrometer adjustment for the most delicate X and Y axis alignments. Precise and accurate, within 25 µm (.001"), Z axis movement is ensured through a twin rail, linear bearing motion control assembly that is similar to those used on automated pick and place equipment. The optic systems utilize advanced digital, color cameras and the highest quality prism available for amazing image clarity. ThermoFlo systems combine convective top-side heating with remarkably stable and powerful IR bottom-side heating for the most effective, repeatable heating process available today. Both systems are self-contained and do not require an external air supply or vacuum connections. Upgrade your area rework capabilities and throughput with ThermoFlo!

LEAD FREE Pb SOLDER COMPATIBLE

PACE provides innovative solutions, products and training for the assembly, rework, repair and testing of printed circuit boards. PACE's unique capabilities and evolving vision have provided universal solutions to thru-hole and surface-mount assembly and rework problems for the most advanced electronics. Our strong commitment and history of achievement has resulted in an unparalleled range of Assembly, Repair and Fume Extraction systems to meet your company's needs whether working to ISO-9000, industrial, military or your own internal specifications. Whatever the challenge, PACE stands ready to provide the best, cost-effective solution for you.

HEATWISE/TEMPWISE	HW 50	HW 100	TW 100	HW 200
HeatWise and TempWise systems feature a handpiece possessing the latest in ergonomic design and operator comfort and use replaceable tip/heater cartridge(s). The ability to change performance level without having to change tips results in significant cost savings and inventory reduction.				

ST SYSTEMS	ST 25	ST 45	ST 125	ST 145
This product line offers two basic configurations: production soldering and fully self-contained desoldering. Each of these basic configurations are available in either analog or digital versions.				

MBT/PRC SYSTEMS	MBT 250	PRC 2000
PACE offers a broad range of rework and repair products to meet all your repair needs. Whether you are replacing a surface mount component, repairing a multi-layer printed circuit board, or making a plated thru-hole repair.		

CONVECTIVE & INSPECTION	ST 325	ST 350	LS 3000	XR 3000
PACE's family of Convective products offer complete solutions from simple surface mount removal and installation to delicate BGA and rework. PACE's new inspection systems feature X-Ray and endoscopic technology to really "SEE" the results of your processes.				

FUME EXTRACTION	ARM-EVAC 105	ARM-EVAC 250	FUMEFLO WORKTABLE	FX 50
PACE's Fume Extraction Systems feature the latest advancements in filter condition monitoring and process control as well as cost effective solutions. A variety of collection accessories are available.				

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PACE worldwide

THERMOFLO PC SOFTWARE

Operator friendly interface documents the procedure and eliminates operator mistakes

PRODUCTION SCREEN

- Password lockout ensures process control by restricting operator access to profile parameters.
- Profile process tracked by color-coded "Status Indicator" and graphical user interface (GUI).
- Allows for process validation using up to two thermocouple inputs.
- Document operations for quality assurance.
- Record PCB/component serial numbers for job tracking.
- Operators can record comments and observations.
- Full system control functions.
- Print function allows for follow up documentation and component profile verification.

PROFILE DEVELOPMENT SCREEN

- Click and Drag Modification feature allows profiles to be developed and modified in real time using PC mouse.
- Add second soak zone to profile.
- On-demand display of time, temperature and airflow on graph with mouse click.
- Choose between installation or removal modes.
- Individual top-heater set temperature, bottom-heater set temperature, time, and airflow settings for all zones.
- Full system control functions.
- Graphical interface of time, temperature and airflow parameters with upper and lower temperature limit guides.
- 4 thermocouple sensor inputs for profile development/monitoring.
- Incorporate work instructions into profiles.
- Save thermal profile data for import into spreadsheet software (not included).
- Verify and compare profiles using "Trial Run Log".
- Activation of external cooling fan to cool PCB and component to below solder melt temperatures.

ALIGNMENT SCREEN

- View images from Vision Overlay System.
- Control zoom and focus.
- Auto focus On/Off.
- Store and manage images electronically.
- Full screen viewing mode.
- Reference image can be stored with profile for easy component identification.

INSPECTION SCREEN

- View, save, and manage images from up to two inspection sources.
- Integrated rework function with inspection function.
- Reference library for immediate operator feedback
- Create inspection reports in PDF format
- Verify process results immediately
- Compatible with LS 3000, XR 3000, and XR 4000

SETUP SCREEN

- Active password lockout on Profile Development Screen.
- Set upper and lower temperature parameters for graphical interface.
- View software in choice of 5 languages.
- Set-back mode and Auto off function.
- Access diagnostic tools and trouble-shooting logs

4

THERMOFLO SYSTEMS SPECIFICATIONS

Flexibility and high performance to meet all your rework requirements

SPECIFICATIONS	TF 1700	TF 2700
Part Numbers	8007-0465 120 VAC 8007-0466 230 VAC	8007-0467 120 VAC 8007-0469 230 VAC 8007-0468 120 VAC with Table 8007-0470 230 VAC with Table
Power requirements	120 VAC, 60 Hz or 230 VAC, 50 Hz (2000 watts maximum)	120 VAC, 60 Hz or 230 VAC, 50 Hz (2800 watts maximum)
Top Heater*	Convective (air or N2), 1200 Watts	
Bottom Heater Type*	IR, 400 Watts	IR, 1300 Watts (400 Watts x 1 & 150 W x 6),
Bottom Heater Area	220mm x155mm (8.6" x 6.1")	405mm x 405mm (16" x 16")
Max Component size	65mm x 65mm (2.5" x 2.5") max	
Max PCB size	305mm x 305mm (12" x 12")	610mm x 610mm (24" x 24")
Air Flow maximum	Self contained, manual adjust, 20 SLPM Max	Self contained, PC controlled, adjust up to 20 SLPM
N2 Option	Standard	
Resolution on Optics Adjustment	0.52mm (0.02") per rotation	
Positioning Accuracy (Z axis)	± 25 μmeters (0.001")	
Vacuum	450mm Hg	
Optics	High resolution, Vision Overlay System	
Video inputs	2 Composite Video and 1 "S" Video (for alignment optics)	
Temperature setting range	Top Heater: 100° to 400°C (212° to 750°F) Bottom Heater: 100° to 221°C (212° to 430°F)	
Dimensions	737mm H x 686mm W x 737mm D (29" H x 27" W x 29" D)	815mm H x 737mm W x 790mm D (32" H x 29" W x 31" D) (PCB holder rails increase width to 1140 mm (45")
Weight (Without Computer)	45kg (100lbs.)	91 kg (200lbs.)
Video Monitor Viewable area	380mm (15") Integrated Color Flat Panel LCD Monitor	431 mm (17") Integrated Color Flat Panel LCD Monitor
Board Supports	Included	Included
Optical Alignment Kit	Included	Included

*Heater functions continuously monitored by PC closed loop control

TF ACCESSORIES

COMPONENT STENCILING TOOLS AND STENCILS
Applies solder paste to component, reducing the difficulty and mess associated with PCB stenciling.

FLUX APPLICATOR
Allows for precise and repeatable application of flux by dipping component.

THERMOFLO NOZZLE CHART

MAXIMUM COMPONENT SIZE	NOZZLE DIMENSIONS	NOZZLE P/N
5mm x 5mm (0.19" x 0.19")	8mm x 8mm (0.31 " x 0.31")	4038-7001
6mm x 6mm (0.24" x 0.24")	9mm x 9mm (0.35" x 0.35")	4038-7042
6mm x 8mm (0.24" x 0.31")	9mm x 11mm (0.35" x 0.43")	4038-7002
7.3mm x 7mm (0.29" x 0.28")	10.3mm x 10mm (0.40" x 0.40")	4038-7040
8mm x 8mm (0.31" x 0.31")	11mm x 11mm (0.43" x 0.43")	4038-7041
8.1mm x 8.1mm (0.31″ x 0.31″)	11.1mm x 11.1mm (0.43" x 0.43")	4038-7055
8.2mm x 12.7mm (0.32" x 0.50")	11.2mm x 15.7mm (0.44" x 0.62")	4038-7003
9mm x 9mm (0.35" x 0.35")	12mm x 12mm (0.47" x 0.47")	4038-7004
10mm x 10mm (0.39" x 0.39")	13mm x 13mm (0.51" x 0.51")	4038-7005
11.4mm x 5.1mm (0.49″ x 020)	14.4mm x 8.1mm (0.56″ x 0.31″)	4038-7050
13mm x 10mm (0.51" x 0.40")	16mm x 13mm (0.63" x 0.51")	4038-7039
13mm x 13mm (0.51" x 0.51")	16mm x 16mm (0.63" x 0.63")	4038-7006
14mm x 22mm (0.55" x 0.87")	17mm x 25mm (0.67" x 0.99")	4038-7021
15mm x 15mm (0.59" x 0.59")	18mm x 18mm (0.71" x 0.71")	4038-7007
15.34mm x 12.7mm (0.60″ x 0.50″)	18.34mm x 15.7mm (0.72″ x 0.61″)	4038-7063
15.6mm x 5.1mm (0.61″ x 0.20″)	18.6mm x 8.1mm (0.73″ x 0.31″)	4038-7062
16.5mm x 8mm (0.65" x 0.31")	19.5mm x 11mm (0.77" x 0.43")	4038-7027
17mm x 11mm (0.67″ x 0.43″)	20mm x 14mm (0.79″ x 0.55″)	4038-7052
17mm x 17mm (0.67" x 0.67")	20mm x 20mm (0.79" x 0.79")	4038-7008
19mm x 19mm (0.75" x 0.75")	22mm x 22mm (0.87" x 0.87")	4038-7026
20mm x 8mm (0.79″ x 0.31″)	23mm x 11mm (0.90″ x 0.43″)	4038-7058
20mm x 20mm (0.79″ x 0.79″)	23mm x 23mm (0.90″ x 0.90″)	4038-7061
21mm x 12.75mm (0.83" x 0.50")	24mm x 15.75mm (0.94″ x 0.62″)	4038-7060
21mm x 25mm (0.83" x 0.98")	23mm x 28mm (0.91" x 1.1")	4038-7029
22mm x 22mm (0.86″ x 0.86″)	25mm x 25mm (0.98″ x 0.98″)	4038-7057
23mm x 23mm (0.90" x 0.90")	26mm x 26mm (1.02" x 1.02")	4038-7009
25mm x 25mm (0.98" x 0.98")	28mm x 28mm (1.1" x 1.1")	4038-7025
27mm x 27mm (1.06" x 1.06")	30mm x 30mm (1.18" x 1.18")	4038-7010
28mm x 16mm (1.1" x 0.63")	31mm x 19mm (1.22" x 0.75")	4038-7038
28mm x 28mm (1.1" x 1.1")	31mm x 31mm (1.22" x 1.22")	4038-7048
28.5mm x 17mm (1.12″ x 0.67″)	31.5mm x 20mm (1.12″ x 0.79″)	4038-7059
29mm x 29mm (1.14" x 1.14")	32mm x 32mm (1.26" x 1.26")	4038-7030
30mm x 30mm (1.18" x 1.18")	33mm x 33mm (1.3" x 1.3")	4038-7044

MAXIMUM COMPONENT SIZE	NOZZLE DIMENSIONS	NOZZLE P/N
31mm x 31mm (1.22" x 1.22")	33mm x 33mm (1.3" x 1.3")	4038-7031
32mm x 17mm (1.26" x 0.67")	35mm x 20mm (1.37″ x 0.79″)	4038-7053
32.5mm x 23mm (1.28″ x 0.90″)	35.5mm x 26mm (1.40″ x 1.02″)	4038-7051
32.5mm x 25mm (1.28″ x 0.98″)	35.5mm x 28mm (1.40″ x 1.1″)	4038-7056
33mm x 33mm (1.29" x 1.29")	36mm x 36mm (1.42" x 1.42")	4038-7028
35mm x 35mm (1.37" x 1.37")	38mm x 38mm (1.5" x 1.5")	4038-7011
38.1mm x 25.8mm (1.50″ x 1.01″)	41.1mm x 28.8mm (1.61″ x 1.13″)	4038-7066
40mm x 40mm (1.57" x 1.57")	43mm x 43mm (1.7" x 1.7")	4038-7024
41mm x 41mm (1.61" x 1.61")	43mm x 43mm (1.7" x 1.7")	4038-7047
42mm x 42mm (1.65" x 1.65")	45mm x 45mm (1.77" x 1.77")	4038-7032
42.5mm x 32.5mm (1.67″ x 1.40″)	45.5mm x 35.5mm (1.80″ x 1.39″)	4038-7054
43mm x 43mm (1.7" x 1.7")	46mm x 46mm (1.81" x 1.81")	4038-7045
44mm x 33mm (1.73″ x 1.29″)	47mm x 36mm (1.85″ x 1.41″)	4038-7064
44mm x 44mm (1.73" x 1.73")	47mm x 47mm (1.85" x 1.85")	4038-7043
44.5mm x 44.5mm (1.75" x 1.75")	47.5mm x 47.5mm (1.87" x 1.87")	4038-7012
46mm x 46mm (1.81" x 1.81")	49mm x 49mm (1.93" x 1.93")	4038-7046
48mm x 48mm (1.89" x 1.89")	51mm x 51mm (2" x 2")	4038-7049
50mm x 50mm (1.97" x 1.97")	53mm x 53mm (2.1" x 2.1")	4038-7022
56mm x 17mm (2.2" x 0.67")	59mm x 20mm (2.32" x 0.79")	4038-7037
60mm x 60mm (2.36" x 2.36")	63mm x 63mm (2.5" x 2.5")	4038-7023
Connector, 16mm x 13mm (0.63" x 0.51")	19mm x 16mm (0.75" x 0.63")	4038-7033
Connector, 19mm x 8mm (0.75" x 0.31")	22mm x 11mm (0.87" x 0.43")	4038-7036
Connector, 27mm x 13mm (1.06"x 0.51")	30mm x 16mm (1.18" x 0.63")	4038-7034
Connector, 30mm x 12mm (1.18"x 0.47")	33mm x 15mm (1.3" x 0.59")	4038-7035
LQFP 9mm x 9mm (0.35" x 0.35")	12mm x 12mm (0.47" x 0.47")	4038-7016
LQFP 12mm x 12mm (0.47" x 0.47")	15mm x 15mm (0.59" x 0.59")	4038-7017
LQFP 14mm x 14mm (0.55" x 0.55")	17mm x 17mm (0.67" x 0.67")	4038-7020
LQFP 16mm x 16mm (0.63" x 0.63")	19mm x 19mm (0.75" x 0.75")	4038-7014
LQFP 16mm x 22mm (0.63" x 0.87")	19mm x 25mm (0.75" x 0.99")	4038-7019
LQFP 22mm x 22mm (0.87" x 0.87")	25mm x 25mm (0.98" x 0.98")	4038-7013
LQFP 26mm x 26mm (1.02" x 1.02")	29mm x 29mm (1.14" x 1.14")	4038-7018
LQFP 30mm x 30mm (1.18" x 1.18")	33mm x 33mm (1.29" x 1.29")	4038-7015

Please visit www.paceworldwide.com for more information on the wide range of PACE's Nozzles, Component Stenciling and Reballing Kits.

PACE® worldwide

XR 3000 BGA/CSP INSPECTION SYSTEM

Real-time X-ray gives immediate feedback.

The XR 3000 is ideal for inspecting BGAs, CSPs, and other electronic components. The XR 3000 provides immediate feedback on your process using real time images. Images can be viewed through PACE's ThermoFlo software or through an optional, flat screen, LCD monitor (P/N 7015-0010) when used as a stand-alone unit.
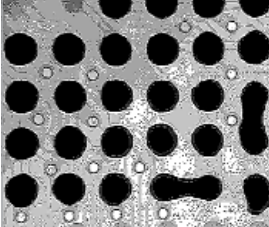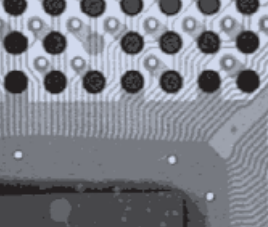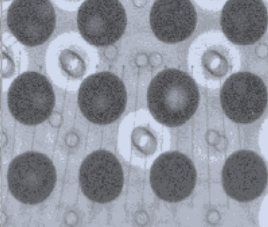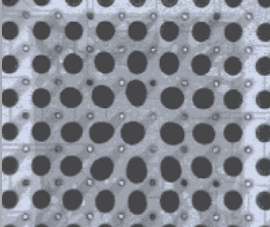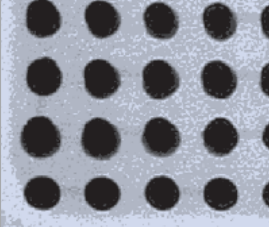
The XR 3000 has been designed with rework in mind so it is able to fit easily on the benchtop and can be relocated quickly. Featuring patented camera technology and outstanding zoom capability, the XR 3000 is able to identify a wide range of anomalies, as small as .025mm (.001"). Using PACE's ThermoFlo software (via TF 1700 & TF 2700), images can be viewed, stored electronically, and managed. Defect analysis reports with images can be easily created.
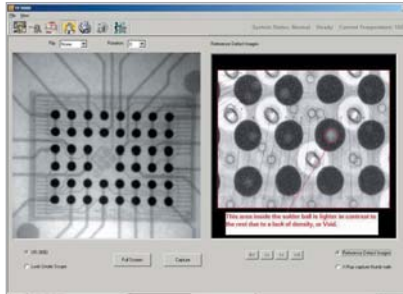
SOFTWARE LIBRARY

When integrated with TF 1700 or TF 2700 software, the XR 3000 system can actually teach operators how to identify defects using the defect image library. Examples of common defects are included with the software that operators can refer to compare the live image of their work with the reference image. The library can be added to and modified so you can provide images of the actual work to the operator for immediate comparison.

AREA ARRAY INTERCONNECTION ANOMALIES IDENTIFIED BY THE XR 3000

BRIDGING	MISSING SOLDER BALLS	SOLDER VOIDS	SOLDER BALLS	COLD SOLDER
Bridging between solder joints is easily identified.	Missing solder balls can be identified easily.	Solder voids	Solder balls in the center of the package are oversized due to delamination and compression under die area.	Cold solder is signified by a jagged, irregular edge around the perimeter of the solder ball. Note that in this image only some of the balls show this signature.

AVOID REJECTING GOOD BOARDS, WITH PACE'S PATENTED CAMERA TECHNOLOGY

Voltage blooming is associated with the X-ray camera used in many X-ray inspection systems. The phenomenon occurs when voltage is increased, causing the white area of the X-ray image (the void) to expand (or bloom) and encroach on the black area.

This makes a void appear larger than it really is. A void that occupies 10% of a solder sphere at 50 kV may appear to consume up to 50% of the solder sphere at 70 kV. The patented camera technology found in PACE's XR 3000 is the only system of its type not subject to Voltage Blooming. The camera technology ensures that void sizes remain consistent.
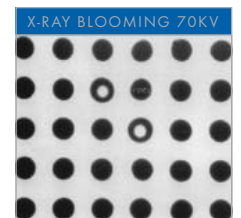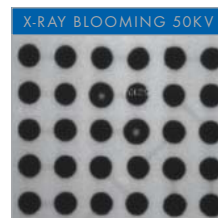
XR 3000 FEATURES AND SPECIFICATIONS

X-Ray inspection for the benchtop.

FEATURES/SPECIFICATIONS	XR 3000
POWER REQUIREMENTS	115 VAC, 60 Hz or 230 VAC, 50/60 Hz 1000 Watts maximum
X-RAY TUBE	50 kv
COLOR CAMERA	High resolution with 7-40x zoom
MAXIMUM PCB SIZE	760mm x unlimited (30" x unlimited)
FOCAL SPOT	0.2mm (0.008")
FOCAL SPOT TO IMAGE PLANE DISTANCE	124mm (4.875")
ADJUSTMENTS	Live or Capture video signal options. Video Gain adjustment
CONTRAST RESOLUTION	Can resolve a 0.25mm (.001") gold wire
SPATIAL RESOLUTION	20lp/mmv
X-RAY ACTUATION	Foot Pedal
OPENING CLEARANCE	40mm (1.5") 120 VAC, 19mm (0.75") 230 VACv
PCB FIXTURE DEVICE	Standard
SMALL PCB CARRIER	Standard
DIMENSIONS	394mm H x 457mm W x 585mm D (15.5" H x 18" W x 23" D)
WEIGHT	39Kg (86 lbs.)

DESCRIPTION	PART NUMBER
XR 3000 120 VAC	8007-0385
XR 3000 230 VAC	8007-0386

LS 3000 OPTICAL INSPECTION SYSTEM

PACE provides a full solution for Area Array Rework

The LS 3000 from PACE is the newest, cost effective, optical inspection system specifically designed for today's electronics. Its primary use is for inspection of area array devices (PBGA,CSPs, Flip Chips, LGAs, CBGAs, etc.). However, the LS 3000 has a wide range of other inspection uses on any SMT or thru-hole based PCB. The LS 3000 is ideal for auditing the performance of production or rework reflow equipment. It is also a critical inspection/monitoring instrument for R&D labs and process development departments when developing new processes or troubleshooting problems.

PART NUMBERS	SPECIFICATIONS
8007-0401	120 VAC 5AMPS
8007-0401-01	120 VAC 5AMPS WITH LCD MONITOR
8007-0402	230 VAC 5AMPS
8007-0402-01	230 VAC 5AMPS WITH LCD MONITOR
6000-0234-P1	PC WITH INSPECTOR SOFTWARE

LS 3000

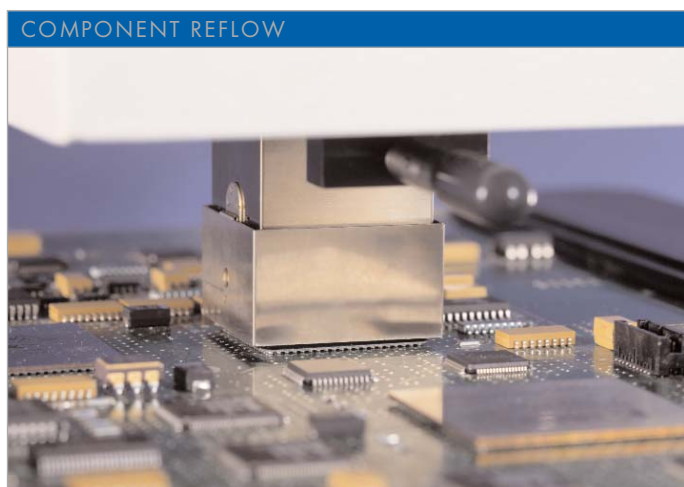# THE IDEAL REWORK SYSTEM FOR SERVICE AND REPAIR FACILITIES

ThermoFlo - Designed for the repair of today's electronic products

COMPONENT PICK-UP

Nested PBGA about to be picked up by Vacuum pik

COMPONENT ALIGNMENT/PLACEMENT

PBGA being held by Vacuum pik during Alignment procedure

COMPONENT REFLOW

Nozzle lowering over PBGA for reflow

COMPONENT PICK-UP

- Each component is placed into an adjustable nest.
- The nest is placed into position above the optics assembly.
- The reflow head automatically picks up the component and moves it to the proper focal position for alignment.
- High-flow vacuum pump holds component securely.
- Four component pick-up nozzles are available.
- Flux dipping and/or stenciling can be incorporated into the component pick-up procedure.

COMPONENT ALIGNMENT/PLACEMENT

- High resolution Vision Overlay System (VOS) with Sony color camera and dichroic prism.
- VOS does not require routine calibration, eliminating costly errors and operator frustration.
- Images are viewed through the PC in standard or full screen viewing modes.
- 72 X magnification, color camera with auto-focus and manual capability.
- The automatically controlled, retractable optics housing protects VOS from dirt and contamination.
- Independent lighting controls for component and PCB to maximize overlay contrast.
- Ultra white, high power LED based lighting for PCB and component eliminates shadow and has wide dispersion angles to adequately illuminate large components.
- Precision Z axis movement ensures placement accuracy.
- Component is placed on PCB with minimal controlled pressure.

COMPONENT REFLOW

- Easy programmability ensures process control and successful installation!
- Profiles are created and managed through the PC software.
- Creating the perfect 4 or 5 zone profile is easy with real time adjustment of profile parameters through the PC.
- Store and recall an infinite number of profiles using the PC.
- 2 pre-defined profiles for use as baselines when developing profiles are included.
- Both systems feature a 1200 Watt top-heater. With closed loop temperature control and unique vented nozzle design; uniform temperature distribution during reflow is ensured!
- Fully integrated, powerful IR bottom heater(s) with closed loop temperature control ensures process integrity by delivering heat evenly, time after time.
- High power heaters allow for successful, safe and repeatable
- reflow at safe, low temperatures.
- 4 thermocouple sensor inputs ensure accurate profile development and monitoring.
- The system is N2 capable as standard.