

SST International

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DESCRIPTION OF EQUIPMENT, ACCESSORIES & OPTIONS

Model 3130 Programmable Vacuum Furnace System

The SST Model 3130 is a programmable vacuum/pressure furnace system that is ideally suited for void-free and flux-free reflow soldering of microelectronic components and packages. The furnace provides precise automatic control of heating and cooling in a vacuum or inert gas positive pressure. Machine control is provided by a user-friendly embedded control system operating in a Microsoft Windows environment. A color LCD touch-screen and an optional industry-standard light tree provide the operator interface. Process profiles are easily created, edited and cataloged using a simple text editor. All run parameters are real-time displayed and archived for SPC and subsequent off-line data analysis. Internet and Intranet network connectivity is available. A custom-designed, basic resistive heater tooling package is required, which will be quoted separately upon receipt of specifications, drawings and tolerances of all components.

STANDARD SYSTEM SPECIFICATIONS

System Performance:

Temperature Range: Room temperature to 500 °C
 Thermal Work Zone: 35 in² (225 cm²) maximum

Temperature Control Resolution: 1 °C

Thermal Deviation in Work Zone: Tool and process dependent.

Heating Method: Removable resistive graphite fixture

Temperature Measurement: Type K Thermocouple

Forced Cooling: Water jacket cooling and N₂ purge

Minimum Vacuum Level: <50 millitorr (<0.05 millibar)

Integral Vacuum Pump: Two-stage, rotary vane,

13 CFM (370 lpm) @ 60 Hz

Maximum Inert Gas Pressure: 60 psig (5 bar)

Process Gasses:
N₂ plus two additional

Process Chamber: Water-cooled 304 SS with aluminum lid, 12 inch

(30 cm) inside dia., 10 inch (25 cm) deep

Control System:

Computer System: IBM Compatible PCOperating System: Microsoft Windows

Control Software: Powerful, user-friendly control software

Primary Operator Interface: 15-inch color LCD touch-screen
 Programmer/Supervisor Interface: Full PC keyboard with trackball

Security and User Logon Control: Windows-based security access
 Time-Based Profiling: 1 second increments to 100 hours

Temperature and Pressure: Set level and ramp rate automatic control.

multiple ramps and dwells

Process Profile Display: Digital plus real-time graphing on LCD

Data Logging:

Profile Creation:

Automatic real-time file logging
Standard Windows text editor

Profile Storage: Unlimited number, Windows directory based
 Maintenance Mode: Manual access for tuning and troubleshooting

Error Sensing: Water flow, gas inlet pressure, thermal

limits, vacuum level, lid open, profile faults,

thermocouple out, chamber pressure

Physical:

Width: 35 inches (89 cm)
Including LCD on Arm: 57 inches (145 cm)
Depth: 42 inches (107 cm)
With Keyboard Extended 53 inches (135 cm)

With Reyboard Extended
Height:
Work Surface:
33 inches (135 cm)
37 inches (95 cm)

• Weight: 1100 pounds (500 kg)

Utilities:

Electrical: 208-240 V, 60/50 Hz, single phase, 60 ampere

service, 13.2 kW peak, 5 kW average

Process Gas (required): Dry N₂ @ 75 psig (6 bar), 3/8 inch (10 mm)

minimum inside diameter line

Process Gas (optional):
 Ar, He, Forming Gas (5% H₂ maximum)

Chamber exhaust: 15 CFM (160 lpm) average

• Vacuum pump exhaust: 5 CFM (55 lpm) average

Cooling Water:
 2 GPM (8 lpm), @ 30 psig (3 bar), 20-25 °C with gravity drain (or 30 psig pressure differential) capacity 2 kW min.

Equipment Installation and Training

Upon delivery of SST's new vacuum furnace system to the customer's designated facility, SST will coordinate with the customer to schedule the company's field service engineer or factory-trained authorized Representative/Distributor, to install the system at a mutually agreed upon time. The installing representative will ensure that all necessary connections, including gas, electrical and water (if required) to successfully operate the system have been properly installed by the customer. Lastly, the representative will certify and make Ready For Use (RFU) the system, ensuring that it meets all factory published standards and operating specifications. After the equipment has been made RFU, the representative will provide technical training to a member(s) of the customer's staff related to the proper operation, process and servicing of the system. Installation and training, as described above, shall take place during a one-day period. Additional time requested for training by the customer, beyond the one day allotted, shall be charged (against a separate purchase order) at the current service rate.

NOTE: Installation by a non-factory-trained authorized Representative/Distributor may void the system warranty

Installation Kit (HK Accessory)

This kit includes typical plumbing fittings and components to help facilitize the water and gas connections to the furnace.

Cooling Water Chiller and Pump (Standard) (CW-1 Accessory)

This option includes a closed-loop, self-contained cooling system for operation when facility supplied cooling water is not available, not adequate, or contaminated. The system includes a thermostatically controlled refrigerated chiller, built-in circulating pump, reservoir, and all the necessary piping and wiring to complete the installation. This chiller version is <u>not</u> to be used if the system includes the Extended Temperature Range (ET) Option.

Cooling Capacity: 5 kW @ 60 Hz, 4.2 kW @ 50 Hz
 Additional Power Requirement: 208-230V 60 Hz @ 1 phase 22 ampere 200V 50 Hz @ 1 phase 20 ampere

Width: 28 inches (71 cm)
 Depth: 25 inches (63 cm)
 Height: 27.5 inches (70 cm)
 Weight: 215 pounds (97 kg)

Cooling Water Chiller and Pump (High Capacity) (CW-2 Option)

This option includes a high capacity, closed-loop, self-contained cooling system for operation when facility supplied cooling water is not available, not adequate, or contaminated. The system includes a thermostatically controlled refrigerated chiller, built-in circulating pump, reservoir, and all the necessary piping and wiring to complete the installation. This chiller version is intended for use with the Extended Temperature Range (ET) Option, or can support two standard furnace systems.

Cooling Capacity: 7 kW @ 60 Hz, 5.9 kW @ 50 Hz
 Additional Power Requirement: 208-230V 60 Hz @ 1 phase 29 ampere
 Additional Power Requirement: 200V 50 Hz @ 1 phase 26 ampere

Width: 36 inches (92 cm)
 Depth: 36 inches (92 cm)
 Height: 26.5 inches (89 cm)
 Weight: 350 pounds (158 kg)

Cooling Water Chiller and Pump (Water-to-Water) (CW-3 Accessory)

This option includes a closed-loop cooling system for operation when facility supplied cooling water is available. This system uses the cooling of your building's central water system while eliminating all the problems associated with building water (such as contamination and temperature fluctuations). As an additional benefit, the system produces very little heat or noise in the working environment compared to a refrigeration compressor system. The system includes a digital coolant temperature controller and

display, built-in circulating pump, reservoir, and all the necessary piping and wiring to complete the installation. This chiller version may be used if the system includes the Extended Temperature Range (ET) Option.

Cooling Capacity:
 Additional Power Requirement:
 Additional Power Requirement:
 Additional Power Requirement:
 230V, 60 Hz, @ 1 phase 9 ampere
 200V, 50 Hz, @ 1 phase 7 ampere

Width: 10 inches (25 cm)
 Depth: 32 inches (81 cm)
 Height: 23 inches (57 cm)
 Weight: 120 pounds (54 kg)

Cooling Water Chiller and Pump (High Capacity) (CW-4 Option)

This option includes a high capacity, closed-loop, self-contained cooling system for operation when facility supplied cooling water is not available, not adequate, or contaminated. The system includes a thermostatically controlled refrigerated chiller, built-in circulating pump, reservoir, and all the necessary piping and wiring to complete the installation. This chiller version is intended for use with the Extended Temperature Range (ET) Option, or can support two standard furnace systems.

Cooling Capacity:
 Additional Power Requirement:
 Additional Power Requirement:
 Additional Power Requirement:
 208-230V 60 Hz @ 3 phase 31 ampere
 200-220V 50 Hz @ 3 phase 31 ampere

Width: 31 inches (79 cm)
 Depth: 36 inches (92 cm)
 Height: 35 inches (89 cm)
 Weight: 455 pounds (205 kg)

Consumable Supply Kit for One Year Operation (CS-1 Accessory)

This kit includes supplies typically required for one year of operation. It includes replacement thermocouples, o-rings, insulators, fuses, springs and instructions for installation.

Dry Vacuum Pumping System¹ (**DP-1 Option**)

This option replaces the standard two-stage, oil-sealed, rotary vane vacuum pump and foreline trap with a dry primary pump. This dry primary pump eliminates the possibility of hydrocarbon migration into the process chamber. The pump is designed for applications that require the pumping of clean and non-corrosive gases. (May not be used with Formic Acid option)

Specification:

Dry Primary Pump:
 Multi-stage Roots primary pump
 8.2 CFM (238 lpm) @ 60 Hz

Width: 7.48 inches (19 cm)
 Length: 20 inches (51 cm)
 Height: 10.63 inches (27 cm)
 Weight: 50.7 pounds (23 kg)

Multiple Zone Temperature Recording¹ (MT-4 Option)

This option adds four sheathed thermocouples to the system chamber and provides for real-time graphical display and logging of these thermocouples with each profile run. This option is typically used for process research and development work. Also, permits monitoring of component temperatures in addition to the heater plate temperature.

Moisture Level Recording¹ (MA Option)

This option adds a moisture monitoring system for the process atmosphere. An aluminum oxide sensing unit is connected directly to the process chamber and is fully operational throughout the entire process. The dew point is displayed on the system LCD display and data is logged with each profile run.

Specification:

■ Measurement Range: -100 °C to +20 °C

Accuracy: ± 2 °C dew point over the full range

Oxygen Analyzer¹ (O2 Option)

This option adds an oxygen monitoring system for the process atmosphere. A rugged, long-life zirconia oxygen sensing unit is connected directly to the process chamber and is fully operational throughout the entire process. The oxygen level is displayed on a standalone portable control unit which may be interfaced with a laptop computer for data logging and display.

Specification:

Measurement Range: 10^{-20} ppm to 100% O₂

• Accuracy: $\pm 1\%$ of the actual oxygen concentration

Measurement Precision: ± 0.5% of the reading
 Response time: ± 0.5% of the reading
 1-4 seconds for a 90% step

Extended Temperature Range¹ (ET Option)

This option extends the maximum operating temperature of the furnace. This allows the system to be utilized for high temperature brazing and glass sealing operations. This option requires a larger electrical service and increases the cooling water load. Select High Capacity Cooling Water Chiller Option CW-2.

NOTE: This option is not field upgradeable. It is only available when installed on a new machine at the factory.

Specification:

Temperature Range: Room temperature to 1000 °C

• Peak Temperature: 1000 °C (for 1 minute)

Max. Continuous Temperature: 700 °C

Utilities:

Electrical: 208-240 V, 50-60 Hz, single phase,

Your Partner for Microelectronics Assembly"

125 ampere service, 25 kW peak,

7 kW average

Cooling Water: 4 GPM (15.2 LPM), @ 65 psig (5.4 bar),

20-25 °C with gravity drain (or

30 psig pressure differential), capacity

3.5 kW minimum

European Electrical and Safety Standards Certification¹ (CE Option)

This option changes components in the electrical system to comply directly with European CE standards and includes CE marking and certification.

Light Tree (LT Option)

This option provides a four-color light tree to indicate system status. This option increases the overall height of the system to 76 inches (193 cm).

Castors (4WD Option)

This option provides four heavy-duty locking swivel castors for the furnace.

Comprehensive Service Kit (CS-2 Option)

This kit includes repair parts designed for off-shore support or for multiple machine installations. It includes circuit boards, valves, lamps, switches, relays and power supplies.

Operation Manuals - Extra Set

One set of operation manuals is included with the system. Extra sets may be purchased separately.

Formic Acid Option¹ (FA)

This option adds the capability of introducing nitrogen gas bound with 0-3.5% formic acid by weight to be used as the processing atmosphere. The acid/gas mixture is developed by bubbling nitrogen through formic acid and then diluting it with additional nitrogen to reach the desired concentration. The N2/formic acid option is fully integrated with the existing pneumatic, control, and programming systems with the exception of bubbler and nitrogen flow rates which are adjusted manually.

One Year Extended Equipment Warranty Option

SST International's *One-Year Equipment Warranty* may be extended for a period of twelve (12) months commencing at the termination date of the original twelve-month *One-Year Equipment Warranty* effective date. The extended warranty, if accepted by SST, may be in effect for a period of twelve (12) months, effective from the thirteenth (13th) month through the twenty-fourth (24th) month prior to the termination of the original *One-Year Equipment Warranty*. The terms and conditions stated in the *One-Year Equipment Warranty* may be extended to the original equipment serial number and purchaser on a case-by-case basis at SST's sole discretion.

Flux Trap (FXT Option)

To prevent flux from entering the piping system and vacuum pump, the trap is piped directly to the process chamber upstream of the vacuum and exhaust circuits. This arrangement necessitates housing the filter element in a custom built pressure vessel that operates at the same vacuum and pressure levels as the process chamber. The containment vessel is a two-piece clamped body design and contains a replaceable polyester felt particulate filter that is capable of trapping particles larger than 10 microns in size at an efficiency of 98%.

Crating

Wooden pallet and crate for shipment. The furnace is normally shipped via padded van on a pallet without crating.

NOTES:

- Factory Installed Options¹.
- All prices are quoted in U.S. Dollars.
- Quotation is subject to SST International Terms and Conditions of Quotation or Sale.
- Ship via Air only All Duties, taxes, insurance, and any other fees Collect

SST's Standard Terms and Conditions of Quotation or Sale

- 1. SALES CONTRACT AND LIMITATIONS. The entire agreement between Buyer and Seller (herein called the "Sales Contract") with respect to the goods and/or services described in Seller's quotation or acknowledgment shall consist of the terms appearing herein and in Seller's quotation or acknowledgment (such terms being additions to or modifications of Seller's Terms mutually agreed upon in writing by Seller and Buyer. Buyer's right to accept any offer from Seller, or acceptance by Seller of any offer from Buyer is made expressly conditional on Buyer's assent to any of Seller's Terms which are additional to and/or different from any terms contained in Buyer's request for quote, Buyer's purchase order, or any other communication from Buyer to Seller. Acceptance by Buyer of any offer from Seller is also expressly limited to Seller's Terms, and Seller hereby objects to and shall not be bound by any additional, different or conflicting terms, whether printed or otherwise, regardless of when they are proposed, in Buyer's request for quote, Buyer's purchase order, or in any other communication from Buyer to Seller, it being understood that Seller's Terms and Conditions shall prevail in all 1828.
- PRICE. All prices are subject to change at any time by Seller, without notice. All quotations are subject to Seller's written acknowledgment. All quotations by Seller shall be limited in duration and terms as set forth therein, and unless otherwise indicated, may be withdrawn or cancelled by Seller at any time. Prices for made-to-order tooling is based upon the information provided to Seller by the Buyer as of the date of the quotation. Any change in Buyers design specifications or drawings from the information provided prior to the quotation will require a re-quote of price and delivery.
- 3. TERMS OF PAYMENT. <u>Domestic</u> sales terms of payment are 50% deposit with order with balance due prior to delivery or, at Sellers option, net 30 days from date of invoice or such other terms as agreed between purchaser and seller. <u>International sales terms</u> of payment are in U.S. dollars by Irrevocable Letter of Credit payable at sight or, by Telegraphic Transfer to our bank account in advance of shipment or such other terms as agreed between purchaser and seller. IN ALL CASES INVOICES ARE DUE AND PAYABLE ACCORDING TO THE DATE AND TERMS AS STATED ON THE INVOICE.
- 4. TAXES. Quotes and prices for Products exclude all sales, use, manufacturer's, retailer's, occupation, excise, or any other tax, fee, duty, tariff or charge imposed by any governmental authority. Purchaser shall be responsible for all such taxes and charges and shall reimburse Seller unless Purchaser furnishes evidence of tax exemption acceptable to the taxing authorities
- 5. DELIVERY. Delivery dates are not guaranteed, but are estimated on the basis of prompt receipt by Seller of all information and approvals to be furnished by Buyer. On made-to-order Tooling orders, the quoted lead-time is specifically identified as to begin upon receipt of a complete set of Buyer's piece part and assembly drawings, fully dimensioned and with tolerances. The delivery date will be fixed at the time all finalized piece part and assembly drawings are received from the Buyer. If Buyer review and approval of concept design is requested, the delivery date will be extended by the number of days required for this review and approval. Seller will communicate any changes in the delivery date to the Buyer when they occur. Seller shall endeavor in good faith to meet estimated delivery dates.
- TITLE. Unless otherwise agreed by Seller, in writing, title to and risk of loss for all shipments shall be F.O.B. Seller's factory.
- 7. CANCELLATION. Buyer will not cancel, or cause to cancel, any Product order, or portion thereof, without Sellers written consent. On orders that Seller grants such written consent to cancel, Buyer shall pay to Seller a cancellation fee equal to 25% of the purchase price if cancellation occurs within 30 days of scheduled shipment. Special orders may not be cancelled whatsoever after acceptance by Seller. Special orders include, but are not limited to, Products made specifically for Buyer such as custom equipment, non-stocked accessories, non-stocked spare parts, and made-to-order tooling.
- 8. RETURNS. No Products shall be returned for credit without prior written authorization from Seller. Special orders are not returnable. Seller shall determine location for returns. Returned Products must be shipped prepaid, will be subject to a twenty-five percent (25%) handling charge and inspection of material. Any made to order tooling that is returned to Seller must be disassembled and properly packed to avoid shipping damage. Seller will not be responsible for damage to returned tooling which occurs as a result of improper packaging.
- 9. WARRANTIES. THE EXPRESS WARRANTIES SPECIFICALLY SET FORTH OR INCORPORATED BY REFERENCE IN SELLER'S QUOTATION OR ACKNOWLEDGMENT, AS THE CASE MAY BE, ARE THE ONLY WARRANTIES WHICH APPLY TO THE GOODS AND/OR SERVICES FURNISHED UNDER THE SALES CONTRACT AND (B) NO OTHER WARRANTIES WHETHER STATUTORY, WRITTEN, ORAL, EXPRESS, IMPLIED (INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) OR OTHERWISE, SHALL APPLY IF APPLICABLE, THE SELLER'S BASIC WARRANTY AND THE SELLER'S ON-SITE WARRANTY, ARE ATTACHED HERETO. UNLESS OTHERWISE PROVIDED IN SELLER'S QUOTATION OR ACKNOWLEDGMENT, ANY SPECIFICATIONS ATTACHED TO OR

- FURNISHED WITH GOODS SOLD UNDER THE SALES CONTRACT ARE DESCRIPTIVE AND ARE NOT INTENDED AS WARRANTIES.
- 10. LIMITATION OF LIABILITY. IN NO EVENT SHALL SELLER HAVE ANY LIABILITY TO BUYER, WHETHER AS A RESULT OF BREACH OF CONTRACT, TORT LIABILITY (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, AND WHETHER ARISING BEFORE OR AFTER DELIVERY OF THE GOODS AND/OR PERFORMANCE OF THE SERVICES FURNISHED UNDER THE SALES CONTRACT, FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR PENAL LOSS OR DAMAGE OF ANY NATURE WHATSOEVER. IN NO EVENT SHALL THE LIABILITY FOR DAMAGES ARISING OUT OF OR CONNECTED WITH THE SALES CONTRACT, OR THE PERFORMANCE OF BREACH THEREOF, OR THE DESIGN, MANUFACTURE, SALE, RESALE, DELIVERY, INSTALLATION, WAINTENANCE, OR REPAIR OF THE GOODS AND/OR SERVICES PROVIDED UNDER THE SALES CONTRACT, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, EXCEED THE PURCHASE PRICE OF SUCH GOODS AND/OR SERVICES.
- 11. FORCE MAJEURE. Seller will not be liable for any failure to perform due to unforeseen circumstances or causes beyond Seller's control, including, but not limited to, acts of God, war, riot, embargoes, act of civil or military authorities, delay in delivery by Seller's vendors, fire, flood, earthquake, accident, strikes, inability to secure transportation, facilities, fuel, energy, labor or materials. In the event of force majeure, Seller's time for delivery or other performance will be extended for a period equal to the duration of the delay caused thereby.
- 12. GOVERNING LAW. The laws of the State of California will govern these Terms and Conditions, and contract attached hereto. In the event of any dispute arising between the parties, sole and proper venue shall be in Orange County, California.
- 13. CUMULATIVE REMEDIES. All rights and remedies of Seller, whether conferred hereby, by any other instrument, or by law, shall be cumulative, and be exercised singularly or concurrently. If any provision of the Sales Contract is held invalid under any applicable statute or rule of law, such invalidity shall not affect other provisions of the Sales Contract which can be given effect without the invalid provisions, and to this end the provisions of the Sales Contract are declared to be severable.
- 14. ATTORNEY'S FEES. If any legal action or arbitration is necessary to enforce these Terms and Conditions, the prevailing party shall be entitled to recover all costs of suit and reasonable attorneys' fees as determined by the Court or arbitrator.
- ARBITRATION. Purchaser and Seller agree that any controversy or dispute arising for or in connection with this these Terms and Conditions, its interpretation, performance of termination, shall upon demand of a Party, be submitted to and decided by binding arbitration. The arbitration shall be conducted pursuant to Part 3, Title 9 of the California Code of Civil Procedure §§ 1280-1288.8. Discovery, including depositions for the purpose of discovery, shall be broadly permitted, and the provisions of the California Code of Civil Procedure §1283.05 shall apply. Any demand to arbitrate shall be deemed to have been made on the date actually received by the Party upon whom it is served, and, for the purposes of the statute of limitations, shall have the same effect as if suit had been filed on the date the demand is made. The arbitration shall occur in Orange County, California, before a single retired or former judge of the Superior Court of the State of California, or the Court of Appeals of the State of California. The Parties shall agree upon an arbitrator within ten (10) days after the demand is made, and if the Parties fail to so agree, then any of them may apply to the Court for an Order appointing an arbitrator meeting the requirements of this section. The arbitrator's decision shall be rendered in ninety (90) days after the hearing and the decision of the arbitrator shall be final and binding and shall be subject to confirmation, correction or vacation in accordance with the provisions of California Code of Civil Procedure §§ 1285-1287.4. Any application, petition, or other proceeding (i) to enforce the award or the provisions of this Agreement, (ii) to the extent that the arbitrator does not have the power or authority to resolve or grant the relief sought, and/or (iii) for provisions or equitable relief pending appointment of the arbitrator, shall be commenced in the appropriate State or Federal Court having jurisdiction in Orange County, California, and the Parties hereby consent to jurisdiction and venue in such Courts.
- ASSIGNMENT. No order or right thereunder may be assigned by Purchaser without Seller's prior written consent.
- ERRORS IN EXTENSION AND TALLY. Errors in the extension or footage of items or an extension of prices, or errors in tally on an order, or on an invoice, are subject to correction.
- SAMPLE PIECE PARTS. Seller requests that the Buyer provide sample piece parts for design verification and final quality assurance inspection. These parts will be returned to the Buyer if requested.
- 19. NON-RECURRING CHARGES. If a non-recurring charge is quoted, it is to cover the first time set-up and programming of CNC machines to fabricate the tooling. Subsequent orders for the same tooling will not incur this charge if there have been no changes to the design. The tooling design shall remain the property of Seller.

Warranty

One-Year Equipment Warranty

SST Technologies, d.b.a. SST International (hereinafter "SST"), a California corporation, warrants to the original purchaser of products that they will be free from manufacturing and material defects for a period of one year following the date of shipment by SST (this warranty does not include consumable items).

This warranty excludes damage to the product resulting from accident, misuse, contaminated in-house water supply, poor water filtration system, modification or servicing by any facility other than an SST authorized facility. This warranty is void if equipment is relocated to a facility other than its original SST shipment destination. Should a product fail within the warranty period, SST's sole obligation shall be to repair or replace the product or any part of it, at SST's sole discretion. Products subject to warranty claim shall be shipped postage prepaid to SST, accompanied by a prepaid return freight authorization or voucher. SST IS NOT LIABLE FOR ANY SPECIAL, DIRECT OR INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Please call SST's Customer Service Department at 562-803-3361 for a Return Materials Authorization Number.

Other than as specified herein, there are no warranties expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness of the products, applicable to the product.

Spare Part Warranty

SST Technologies, d.b.a. SST International (hereinafter "SST"), a California corporation, warrants to the original purchaser at only the original point of receipt, that its spare part products will be free from manufacturing and material defects for a period of 90 days following the date of shipment by SST (this warranty does not include consumable items).

This warranty excludes damage to the product resulting from accident, misuse, contaminated in-house water supply, poor water filtration system, modification or servicing by any facility other than an SST authorized facility. Should a product fail within the warranty period, SST's sole obligation shall be to replace or repair the product or any part of it, at SST's sole discretion. Please call our Customer Service Department at 562-803-3361 for a Return Materials Authorization Number prior to returning any item to SST. Products subject to warranty claim shall be shipped postage prepaid to SST, accompanied by a prepaid return freight authorization or voucher. SST IS NOT LIABLE FOR ANY SPECIAL, DIRECT OR INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Other than as specified herein, there are no warranties expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness of the products, applicable to the product.