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ENQUIRY No.EC/EMSD/PUR/2900/4413/1115

DATE: 17.10.2014

DUE DATE: 15.11.2014

ELECTRONICS CORPORATION OF INDIA LIMITED  
(A Govt. of India Enterprise)  
Electronic Manufacturing Services Division  
Industrial Development Area, Phase-II,  
Cherlapally,  
HYDERABAD – 500 051

**PLEASE SUBMIT YOUR QUOTE IN SEALED ENVELOPE SUPERSCRIBING RFQ ENQUIRY & DUE DATE BY POST / COURIER TO THE UNDERSIGNED. QUOTE YOUR BEST PRICE ETC., FOR THE FOLLOWING ITEM/S SO AS TO REACH US ON OR BEFORE DUE DATE AND TIME.**

**NOTE: QUOTATIONS RECEIVED THROUGH EMAIL / FAX WILL NOT BE CONSIDERED**

01. “WAVE SOLDERING MACHINE (LATEST VERSION)”  
(TECHNICAL SPECIFICATIONS AS PER ANNEXURE-I)

- 02 NOS

**GENERAL TERMS AND CONDITIONS:**

**THE QUOTE IS TO BE SUBMITTED BY HAND/POST/COURIER DULY SUPERSCRIBING OUR REFERENCE OF OUR “REQUEST FOR QUOTATION”.**

**THE BID SHALL BE IN TWO- PARTS:**

TECHNICAL BID AND PRICE BID ENCLOSED IN SEPARATE SEALED ENVELOPES EACH SUPERSCRIBED WITH THE REFERENCE OF REQUEST FOR QUOTATION. THESE TWO PARTS SHOULD BE TOGETHER PUT IN A SINGLE SEALED ENVELOPE SUPERSCRIBED WITH REFERENCE OF REQUEST FOR QUOTATION AND SUBMITTED. THE PRICE BIDS WILL BE CONSIDERED FOR ONLY THOSE OFFERS WHICH QUALIFY IN TECHNO-COMMERCIAL BID EVALUATION.

**OPENING OF TENDER:**

**TECHNICAL BIDS WILL BE OPENED ON 17<sup>TH</sup> NOVEMBER, 2014, THE MONDAY AT 2 PM BEFORE THE BIDDERS PRESENT.**

<b>ANNEXURE -I</b>			
<b>Technical Specifications of Wave Soldering Machine</b>			
<b>S No</b>	<b>PARAMETER</b>	<b>SPECIFICATION REQUIRED</b>	<b>Complied</b>
<b>A</b>	<b>Basic specifications</b>		
<b>1</b>	<b>SOLDER BATH</b>		
1.1	<b>Material of Solder pot</b>	Titanium	
1.2	<b>Capacity of Solder Pot</b>	500 Kg Minimum	
1.3	<b>Type of Solder Pump</b>	Mechanical direct coupled with Motor	
1.4	<b>Type of Motor used</b>	Frequency controlled. AC induction Motor	
1.5	<b>Material of impeller of pump</b>	Stainless steel V4A	
1.6	<b>Type of Wave generated in dual wave for SMT through Hole.</b>	For SMT, High velocity turbulent (jet) Wave and Delta wave in the laminar wave for through hole components.	
1.7	<b>Wave Height fixed or variable</b>	Variable	
1.8	<b>Wave height attainable</b>	Up to 15 mm	
1.9	<b>Accessibility of solder pot, Heaters, Nozzles or wave etc.</b>	All parts are accessible, very conveniently	
1.10	<b>Up-down adjustment to suit to conveyor angle adjustment</b>	Available with the help of single knob	
1.11	<b>Maximum Solder Temperature</b>	400 °C	
2.2	<b>Availability of Solder Level Indication</b>	Low level alarm and indication	
<b>2</b>	<b>PREHEATER</b>		
2.1	<b>Type of Pre heaters in detail</b>	6 stage long wave IR pre heater Conviction Air flow Covered with self cleaning ceramic glass plate.	
2.2	<b>Length of pre-heater</b>	Standard 700 mm 3 stage	
2.3	<b>Optional pre-heater</b>	1400 mm 6 stage / 1800 mm 7 stage	
2.4	<b>Power requirement of pre-heater in running and standby mode</b>	Max. 18 K Watt on start up. Running & Stand by Power will depend upon production and set Temp.	
2.5	<b>Warm-up time for pre heater</b>	5-10 minutes depending upon Temp. Set.	
2.6	<b>Size of Pallet and Size of PCB can be Handled</b>	Pallet size: Min. 70mm x 70mm & Max. 450 mm x 517 mm PCB Size: Min. 50 mm x 50 mm & Max. 450 mm x 450 mm	
2.7	<b>In case of Finger type of pallet a) Material of the fingers b) Pitch of the fingers c) Min. &amp; Maximum width of PCB it can Handle</b>	SS / Titanium (option) Approx. 20 mm. Adjustable to suit the PCB size Min. 50 mm & Max. 450 mm	

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<b>3</b>	<b>CONTROL &amp; SAFETY</b>		
3.1	<b>Type of Control for Control Panel</b>	All controls on programmable microprocessor based Controller PC.	
3.2	<b>Process parameters for which controls and measurement (digital read outs) are available on the panel.</b>	Conveyor speed, Fluxing width, pre heater temp. solder wave height, solder bath temp etc.	
3.3	<b>Availability of Over Temp. Cut-off for solder bath temp. &amp; its reference value</b>	Yes	
3.4	<b>Availability of under temp. Cut-off for Solder pump &amp; its reference value</b>	Yes	
3.5	<b>Availability of Emergency Stops and alarms on the machine</b>	Yes	
3.6	<b>Other Controls &amp; Safety provisions on the machine</b>	Suction Hood over spray fluxer to avoid Fire. Printer/PC interface for Data Printing /Storage for ISO 9000. Staggered switching on solder bath heaters to avoid Solder splash, while melting.	
<b>4</b>	<b>FLUXER</b>		
4.1	<b>Type of fluxer</b>	Spray Fluxer	
4.2	<b>Recommended for type of fluxer to suit all types of fluxes including No-clean Flux &amp; High density of boards to be soldered</b>	Foam Fluxer / ATS Spray fluxer	
4.3	<b>Material for Fluxer Tank</b>	Stainless Steel	
4.4	<b>Capacity of Fluxer Tank</b>	4 Ltrs for Foam fluxer	
4.5	<b>Capacity of Storage tank for Spray fluxer</b>	20 Ltrs	
4.6	<b>Pressure regulation &amp; control available</b>	Sketch details required	
4.7	<b>System of spray fluxer (operation details) Foam height attainable in case of Foam</b>	Sketch details required	
4.8	<b>Fluxer</b>	5-10 mm depend upon flux composition	
<b>5</b>	<b>CONVEYOR</b>		
5.1	<b>Type of conveyor in-built</b>	Finger Conveyor	
5.2	<b>Length of Conveyor</b>	3.3 mtrs approx	
5.3	<b>Mode of adjustment (Manual &amp; Motorized)</b>	Manual conveyor angle adjustment as standard optional Motorized also	
<b>6</b>	<b>Optional</b>		
6.3	<b>Bar code reading</b>	Required to read 1D/2D barcode on PCB	
6.2	<b>Board Carrier</b>	Adjustable pallates to be quoted	
6.3	<b>Separate Pot</b>	Additional pot for LED / RoHS Process	

<b>S No</b>	<b>TERMS &amp; CONDITIONS</b>	<b>Clause</b>		<b>Complied</b>
<b>7</b>	<b>QUALIFICATION DOCUMENTS</b>	<b>7.1</b>	Bidders must be the original equipment manufacturers or their authorised agents only.	
		<b>7.2</b>	Only one bid must be submitted either by the manufacturer or their authorised agent.	
		<b>7.3</b>	The authorised agent should submit documentary evidence to that effect along with the bid.	
		<b>7.4</b>	In case multiple bids are submitted by manufacturer or their authorised agents, the bids would be liable for rejection.	
		<b>7.5</b>	The bid must be accompanied by documentary evidence of similar equipment having been supplied to customers in India in the last 3 years along with the performance certificates from the users. In case such equipment has not been supplied to Indian customers, details of customers in other countries to whom such equipment has been supplied, in the last three years, should be provided along with the performance certificates from such users.	
		<b>7.6</b>	The manufacturer should have their authorised service agent in India. Service engineer training & experience certificate form OEM should also be enclosed.	
<b>8</b>	<b>BID DOCUMENTS</b>	<b>8.1</b>	The bid must be submitted in two parts.	
		<b>8.2</b>	The first part, marked "Techno-commercial" should contain all technical, commercial and qualification documents except the price. The commercial terms and conditions should also be part of the Techno-commercial bid.	
		<b>8.3</b>	The second part, marked "Price Bid" should contain the unit rate and total price. No other information should be included in the price bid.	
		<b>8.4</b>	Price should not be mentioned anywhere in the techno-commercial bid. Failure to comply with this requirement would render the bid liable for rejection.	

<b>S No</b>	<b>TERMS &amp; CONDITIONS</b>	<b>Clause</b>		<b>Complied</b>
<b>8</b>	<b>CONTINUED.. BID DOCUMENTS</b>	<b>8.5</b>	Clause-wise compliance statement of technical specifications	
		<b>8.6</b>	Clause-wise compliance of commercial conditions	
		<b>8.7</b>	Deviations from technical specifications and commercial conditions, if any	
		<b>8.8</b>	Technical data and catalogues	
		<b>8.9</b>	a) List of international standards to which the equipment conforms along with documentary evidence. b) Machine should comply with CE / UL certification	
		<b>8.10</b>	List of customers to whom similar equipment has been supplied in the last 3 years	
		<b>8.11</b>	Performance certificates from the customers	
		<b>8.12</b>	The list of tools, accessories, calibration and preventive maintenance kits that will be supplied along with the equipment.	
		<b>8.13</b>	Copy of the price bid with the values replaced with "xxx"	
<b>9</b>	<b>SPARE PARTS</b>	<b>9.1</b>	List of basic spare parts and consumables kit required for operation and maintenance of the equipment up to the warranty period	
		<b>9.2</b>	List of spares recommended for 5 years operation after the warranty period which should include all parts prone to wear-and-tear, all printed circuit boards and consumables.	
		<b>9.3</b>	Confirmation of availability of spares and service for a period of 10 years beyond the warranty period.	
<b>10</b>	<b>GENERAL TERMS</b>	<b>10.1</b>	Prices should be quoted CIF Hyderabad, India.	
		<b>10.2</b>	The bids should be valid for a period of 120 days from the due date of the tender.	
		<b>10.3</b>	The equipment quoted should be brand new.	
		<b>10.4</b>	The price bids of only technically qualified bidders would be opened and considered for placement of order.	

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<b>11</b>	<b>INSTALLATION AND COMMISSIONING</b>	<b>11.1</b>	Special requirements for installation and commissioning including power, civil works, clean room, air-conditioning and ventilation.
		<b>11.2</b>	Installation and commissioning of the equipment at ECIL should be carried out by the supplier at no additional cost . The supplier should demonstrate the full capabilities of the equipment during commissioning.
		<b>11.3</b>	The supplier's representative should visit the site and indicate the works to be carried out to make the site ready for the installation and commissioning of the equipment
		<b>11.4</b>	In case of delay in supply and/or installation and commissioning of the equipment beyond the agreed schedule, penalty would be levied at 0.5% of the equipment value per week or part thereof, subject to a maximum of 10% of the order value.
<b>12</b>	<b>TRANING</b>		One week training on operation, maintenance, programming and basic troubleshooting to be provided to ECIL engineers at the time of commissioning.
<b>13</b>	<b>MANUALS</b>	<b>14.1</b>	Two sets (each set comprising of one hard copy and one soft copy) of operation, programming and maintenance to be supplied with machine
		<b>14.2</b>	Machine drawings should contain Mechanical assembly details, Electrical drawings (including schematic & wire drawings) and Spare part list (including mechanical & electrical parts) for the model offered.
<b>14</b>	<b>DELIVERY</b>		The equipment should be delivered preferably within 12 weeks of the release of order.
<b>15</b>	<b>COC</b>		Certificate of conformance along with test results should be furnished along with invitation for pre-despatch inspection.

S No	TERMS & CONDITIONS	Clause		Complied
16	INSPECTION	16.1	List of tests that would be conducted during pre-despatch inspection.	
		16.2	The travel and living expenses for pre-despatch inspection would be borne by ECIL.	
		16.3	The equipment should be despatched only after satisfactory completion of pre-despatch inspection at manufacturer’s site for the full range of operations and to be witnessed by ECIL	
17	SOFTWARE UPGRADATION	All software updates should be sent at free of cost		
18	PAYMENT TERMS	Payment terms would be as follows: a. 80% of the supply value through irrevocable letter of credit with a usance of 60 days. b. Balance 20% upon acceptance of the equipment post installation and commissioning at ECIL. However, all bank charges inside India will be borne by ECIL and outside India to your account only.		
19	BANK GUARANTEE	The successful bidder should submit a performance bank guarantee equivalent to 10% of the order value before the final 20% payment is released. The performance bank guarantee should be valid till the end of the warranty period and should have a claim period of 1 month		
20	WARRANTY	20.1	Availability of warranty and post-warranty support	
		20.2	Confirmation of availability of AMC for a period of 5 years post-warranty, the prices for which should be included in the price bid.	
		20.3	The equipment warranty should be for a period of 42 months from the date of supply or 3 years from the date of commissioning whichever is earlier. The warranty should be comprehensive on-site warranty inclusive of all charges towards spares, labour, freight, insurance, taxes and levies. Preventive maintenance should be carried out as per schedule during the warranty period. The preventive maintenance schedule should be detailed in the techno-commercial bid.	

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<b>21</b>	<b>SERVICE SUPPORT</b>	<b>21.1</b>	Breakdown calls should be attended to and the equipment restored to running condition within 48 hours of intimation during warranty and AMC. Any delay would result in a penalty of 0.1% of the equipment value per day or part thereof.
		<b>21.2</b>	Details of their authorised service agent who should be contacted for service requirements.
<b>22</b>	<b>LIQUIDATED DAMAGES</b>		In the event of any delay in supply beyond the stipulated delivery schedule, Liquidated damages will be recovered at the rate 0.5% per week of delay subject to maximum of 10% of the value of the order.
<b>23</b>	<b>RISK PURCHASE</b>		In case of failure to deliver the goods within the delivery date stipulated in the purchase order, unless prior extension of delivery period is obtained, ECIL will be at liberty to obtain such items as necessary from other sources and recover the additional costs incurred from the supplier
<b>24</b>	<b>ORDER CANCELLATION</b>	23.1	ECIL will be at liberty to cancel the order if the equipment is not delivered within the delivery date specified in the order including any extensions granted.
		23.2	ECIL has the right to close the tender without placing the order without assigning any reasons.

1. Please provide point-wise compliance to all our above terms and conditions/notes.
2. All further clarifications regarding this tender and all communications including e-mails and letters and minutes of meeting shall be treated as part of the tender.
3. For any clarifications, please contact Shri. K.P Reddy, Senior Manager, EMSD, and ECIL, e-mail: [puremsd@ecil.co.in](mailto:puremsd@ecil.co.in) , Phone: 9949079313/040-27260071.