



CENTRE FOR MATERIALS FOR ELECTRONICS TECHNOLOGY,
(A Scientific Society, Under Ministry of Electronics and Information Technology,
Government. of India)
SHORANUR ROAD, M.G. KAVU, P.O. ATHANI, THRISSUR 680 581
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TENDER NOTICE

Sealed Tenders are invited in two parts; technical bid and financial bid, from the reputed Indian manufactures or their authorized dealers and Foreign manufactures or their authorized Indian Agents for the supply, installation, commissioning and demonstration of stores mentioned below

S.No	Brief Description of Stores	Qty	Tender No. & Dt.
1	Precision Supercapacitor (snap –in-type) sealing machine (Specification as per Annexure – III)	1 unit	TR/PUR/SP/096/2016 dt. 27.02.2017

The General terms and conditions shall be as per the **Annexure -I , and II** attached herewith

The technical and financial bids shall be kept in separate covers and put in a single cover super scribing the **enquiry reference number and name of the equipment**. It is requested that the quotations along with literature, if any, may please be sent so as to reach The Administrative Officer, C-MET at the address given above, on or before the due date of 20th March, 2017. The technical bids will be opened on 21st March, 2017 at 11.00 a.m. at C-MET, Thrissur.

Sd/-
Administrative Officer

ANNEXURE –I

TERMS AND CONDITIONS

1. The tender shall be submitted by either the Indian Agent on behalf of the Principal/OEM or by Principal/OEM itself, but both cannot bid simultaneously for the same product in the same tender. If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another principal/OEM in the same tender for the same item/product.
2. The specifications for the items quoted should be explicitly clear and all available technical literature, catalogues and other data in support of the specification of the items should be furnished along with the quotation.
3. Only one quotation should be sent in one envelope for a specified equipment/instrument.
4. Quotation should be valid for a minimum period of Ninety Days from the due date.
5. The quotation should reach **on or before 20th March, 2017**, to the Administrative Officer, C-MET, (Centre for Materials for Electronics Technology, Shornur Road, Mulankunnathukavu (P.O), Athani – 680 581, Kerala State, India super scribing **Name of Item**. The Technical bid will be opened on 21st March, 2017 at 11.00 a.m. at C-MET, Thrissur
6. It should be specifically mentioned whether the price quoted includes all taxes and duties. Sales Tax and / or other duties and levies where legally leviable and intended to be claimed should be distinctly shown separately in the tender.
7. Short listed vendors may be called for discussion at C-MET, Athani, Thrissur, before placing order
8. C-MET takes no responsibility for delay, loss or non-receipt of quotations / documents send by post and reserve the right to accept or reject any party of the tender without assigning any reasons.
9. Corrections if any, must be attested. All rates shall be indicated both in words as well as in figures. Where there is a difference between rates quoted in words and figures, rate quoted in words will prevail.
10. The authority of the person signing the tender, if called for, should be produced.
11. Terms and conditions for the contract to be signed for the supply of items should be provided along with the quotation.
12. Tenders should submit along with their quotation, details of similar equipment /machineries supplied to Scientific / Technical Institutions during the past 3 years in India and the reference to that effect may be clearly mentioned.
13. Delivery period of the items quoted should be clearly mentioned and shall be delivered within the period specified in the P.O
14. Packing, forwarding and handling charges, etc., if any, to be quoted separately.
15. Payment shall be made only after receipt and inspection of the item.
16. We won't be able to provide "C" forms. Hence quote for the taxes actually leviable.

17. We are exempted from Excise Duty as per Notification No. No: 10/97- Central Excise Dated 1st March, 1997 & No. 16/2007- central Excise dated 1st March, 2007 respectively
18. **Warranty clause** : The items covered under this tender, shall be covered minimum **two years** on site comprehensive warranty . If any item covered under warranty fails, the same shall be replaced free of cost including all the applicable charges including transporting cost both the ways
19. On selection, he/she shall be required to provide security deposit as performance guarantee for an amount of 10% of the purchase value of the equipment(s) in the form of Demand Draft, Fixed Deposit Receipt or Bank Guarantee from the Nationalized bank, which shall be valid for entire performance guarantee period plus 60 days.
20. Additional terms and conditions will be incorporated in the purchase order, if needed, to safe guard the interests of the C-MET
21. C-MET reserves the right to accept / reject any offer in full or in part or accept any offer other than the lowest offer without assigning any reason thereof. Any offer containing incorrect and incomplete information shall be liable for rejection.
22. Out of total contract/ purchase price, 90% of the amount will be paid on satisfactory installations. Balance of 10% of the amount shall be retained as Security Deposit, towards satisfactory performance of the equipment, and which may be released on submission of a performance Bank guarantee (obtained from Nationalized Bank of India) for the 10% of the total contract/ purchase value.
23. In case of any dispute in respect of the tender, all legal matters shall be instituted within the jurisdiction of the place where the item is installed.
24. Timely supply of the ordered items, installation, commissioning (wherever applicable) and training etc., is the essence of the contract. In case of failure to supply within the time specified in the Purchase order, a penalty/LD of 0.5% of the total value per week or a part thereof shall be levied subject to a maximum of 10% in respect of items which are not supplied. The decision of C-MET shall be final in this regard.
25. The offers will not be considered if received after the bid closing date and time.
26. The offers received through telex / tele-fax / e-mail will not be accepted by the C-MET under any circumstances.

Sd/-

(T.K. Anil Kumar)
Administrative Officer

Specific Conditions for quoting Foreign Equipments (Import)

1. **Duty Exemption** :Centre for Materials for Electronics Technology (C-MET) has been granted the benefit of exemption from the payment of the Central Excise Duty and Customs Duty by the Department of Scientific and Industrial Research (DSIR), Govt. of India, vide their Notification No.10/97 - Central Excise Dated 1st March, 1997 & No. 16/2007- central Excise dated 1st March, 2007 and 51/96 –Customs dt. 23rd July 1996 & No. 24/2007 – Customs dt. 1st March 2007 respectively, in respect of
 - a) Scientific and technical instruments, apparatus, equipment including computers.
 - b) Accessories and spare parts of goods specified in (a) above and consumables.
 - c) Computer software, compact disks, CD ROM, Recording magnetic tapes, microfilms, micro-chips etc.
 - d) Prototypes.

Hence, the bidders should take into consideration about this facility of C-MET while quoting for the advertised scientific equipments.

2. The offer must be in English. The rates should be indicated both in figures and words against item specified in the given table. It is preferable that the price be quoted in Rupees or in US Dollars or in major foreign currencies.
3. All quoted prices in foreign currencies are to be converted into Indian Rupees, as per the selling exchange rates established by RBI as prevailing on the date of tender opening.
4. The total cost should be quoted for FOB as well as for CIF, Cochin/CIP, C-MET, Athani, Thrissur
5. The price quotes under FOB and CIF/CIP should also include the cost of installation in C-MET Laboratory, demonstration by an experienced engineer. The quoted price should also inclusive of cost of consumables which are required for the main equipment for initial operation, up to a reasonable period.
6. In case, C-MET is offered and accepted the FOB or CIF/CIP price, the customs duty payable in India will be on C-MET account.
7. Wherever the CIF/CIP price is approved and a supply order is issued on this basis, the equipment will be cleared by C-MET from the concerned port, through the authorized clearing agent and the supplier should take delivery from the clearing agent of C-MET and should take responsibility for local transportation, insurance and installation at site.
8. In case of the Principal supplier of Foreign country is unable to meet any of the conditions stated at the preceding paragraphs, the local agent / dealer should fulfill the above said conditions especially, in respect of Local Insurance, Freight, safety transport and installation, etc.

9. For the imported equipments, normally a letter of Credit will be opened for 100% FOB price on receipt of order of acknowledgement. However, 90% of the LC amount will be paid on proof of the shipment of the consignment with necessary documents to be detailed at the time of placing of the purchase order.

Balance of 10% of the LC amount shall be released after receipt of **a performance bond of 10% of the total contract / purchase value in the form of bank guarantee covering the warranty period, obtained from a bank which has its office in India.**

10. Bank charges in India shall be borne by the purchaser and outside India shall be borne by the contractor / supplier.
11. No Agency commission will be paid to any authorized agent in India.
12. The training should be provided by the supplier on the specimen and operation of the equipments for a minimum period of two weeks from the date of installation with an expert team.
13. The bidder from abroad shall obtain, if required, export permission from the appropriate authorities in his country or the country of origin for items to be shipped to India. C-MET shall provide necessary information if required for this purpose.
14. Part shipment will not be accepted.
15. **Electrical power input:**All equipment must operate at 230V/50 Hz single phase and / or equivalent three phase electrical power.

Sd/-
(T.K. Anil Kumar)
Administrative Officer

Annexure-III

Technical specification for Precision Supercapacitor (Snap-in type) Sealing machine

This machine is intended for snapping type supercapacitor sealing unit for leak-proof sealing of electrode wounds in different sizes of Al cans. Hence, the machine should be designed in such a way that it should have a capability of accommodating & hermetically seal electrode wounds of three diff sizes using Al- cans [(a) 25(ϕ)x55-60(H) mm; (b) 35(ϕ)x70-75(H) mm, and (c) 50(ϕ)x100-105(H) mm] and sealing operation should be very accurate and precise for snap-in type supercapacitors. Therefore, designed/supplied machine shall have following features and also shall meet technical specifications, as mentioned below.

1. **Machine design & features:** Machine shall be designed in two units – (a) lead punching/riveting unit and (b) supercapacitor can (snap-in type) sealing unit.
 - o Machine shall be designed with heavy duty VFD controlled electric motor (power: ~2 HP/single phase) driven unit coupled with electro-mechanical drives and desired cramping mechanism for sealing supercapacitor cells in 3 (three) different sizes of cans (as mentioned above).
 - o Machines shall be designed and fabricated with strong metal frame to accommodate electric motor unit, Mechanical drives, Gears, Cam assemblies, etc. Machine shall be supplied as a complete system comprising all sub-units/assemblies. All sides shall be covered with dully powder coated MS sheets of 2-3 mm thick for good out-finish.
 - o **Instrument Air:** Machined should be designed for working with instrument air (an air-compressor having the supply air of 4-6 bar) is available at C-MET that will be shared with this machine. Require pipeline, valves & fitting shall be provided for connecting existing Air-Compressor to this machine.

2. **Electrode Riveting unit:** Machine shall be supplied with electrode **Riveting unit** for riveting/punching lead-terminals with the snap-in top of respective sizes, (a) 25(ϕ) mm, (b) 35(ϕ)mm and (c) 50(ϕ) mm.

- Riveting unit shall be table-top type that can be made with strong metal-frame support and sides shall be covered with dully powder coated MS sheets of 2-3 mm thick for good out-finish.
- Riveting unit shall have groove sample holder for proper holding/placing the snap-in top of respective sizes on it. At least **3 (three)** such holders shall be supplied for holding span-in top of 3 (three) different sizes, (a) 25(ϕ) mm, (b) 35(ϕ)mm and (c) 50(ϕ) mm.
- Riveting unit shall have a top punching assembly, consisting punching jig of respective sizes for riveting electrode wounds with the snap-in top of said sizes. At least **3 (three)** such punching/riveting jogs shall be supplied along with the machine for riveting/punching lids of electrode of **3 (three)** different sizes - (a) 25(ϕ) mm, (b) 35(ϕ)mm and (c) 50(ϕ) mm.
- The lead-punching/riveting operation shall be accomplished by applying require force from top by means of movement of punch head via mechanical Camping system or pneumatics valve actuation. In case of pneumatic valve actuation, suitable valves/fillings and inlets for instrument air shall be provided for connecting existing air-compressor of 4-6 bar supply air pressure.

3. Supercapacitor Sealing unit (for snap-in type cells): Sealing unit of the machine shall be designed for sealing of electrode wounds in snap-in type supercapacitors using Al-cans of diff sizes as mentioned below. Sealing operation shall be crimping of cans simultaneously from side and top for achieving hermetic/leak proof sealing of electrolyte impregnated wounds.

- ⊖ Machine shall be designed for performing the sealing operation of supercapacitor wounds in Al-cans of different sizes, at least for three diff size of cans- (i) 25(ϕ)x55-60(H) mm; (ii) 35(ϕ)x70-75(H) mm, and (iii) 50(ϕ)x100-105(H) mm.
- ⊖ Machine shall have three crimping jigs of specific design for sealing cans from top and also proper fold the top edge of cans
- ⊖ This top jigs shall be placed at $\sim 120^\circ$ angles with angular rotation and the jigs shall be designed in such a way that while sealing/rotation, they will also be pressing the can edge inside uniformly during sealing operation. Arrangement of sealing jigs shall also be in such a way that while rotating, it should move towards the can for proper alignment of cans and then press the cans from side precisely for proper sealing with snap-in top. This action shall be designed through pneumatic operation
- ⊖ Sealing Jigs shall be designed in such a way that top-edge of cans should be pressed over snap-in top for hermitic sealing, leaving the cylindrical edge intact, which can be achieved by

making/ placing a notch in the jig. Further, there shall be the provision for proper holding of snap-in top, so that it will not jump-out/make any misalignment during sealing operation.

- ⊖ Machine shall be designed with a base for fixing/holding cans of specific sizes. Can holder shall include at least three can of three different sizes, as stated above. Further, there shall be the provision for adjusting height of the spindle, so that can of same diameter but different heights can be accommodated within the same holder.
- ⊖ Suitable provision shall be provided loading of cans & electrode wounds (attached with span-in top) prior to sealing operation. Options may be provided automatic operation and /or manual operation of machine for specific size of cans
- ⊖ Machine shall be designed with interchangeable jigs for sealing operation for one specific size (say, 35(ϕ)x70-75(H) mm) at a time. Jigs for other sizes [say, 25(ϕ)x55-60(H) mm & 50(ϕ)x100-105(H)] can easily be interchanged for operation of respective can sizes without much difficulties.

4. Control Panel & Features: Machine shall have control panel to monitor and control all process parameters precisely. Control panel shall have all control switches, displays of process parameter, etc. and should to be placed in front side for easy/convenient operation. Digital indicator cum program controller shall also be provided to read/set parameters to be used for winding for manual & automatic operation of the machine

- Separate control panel shall be used for main sealing unit and electrode riveting unit
- Control panel shall consist of emergency shut-off bottom for switching-off on emergency

5. Essential consumable accessories: Following essential consumable accessories shall be supplied along with the machine

- Al-can with snap-in top (Can: 25(ϕ)x55-60(H) mm, top: 25(ϕ) mm) – 1 box (5000 set of can+top)
- Al-can with snap-in top (Can: 35(ϕ)x70-75(H) mm, top: 35(ϕ) mm) – 1 box (5000 set of can + top)
- Al-can with snap-in top (Can: 50(ϕ)x100-105(H) mm, top: 50(ϕ) mm) – 1 box (5000 set of can + top)
- Riveting washer of respective sizes – 3 pkt. (10,000 pcs per pkt. and one pkt. for each size)
- Toolkit*: **one complete set**

(*Toolkit shall comprise complete sets normal spanners, adjustable spanners, Allan-key set, screwdriver set, etc. for machine operation/changing jigs-n-fixes)

6. **Line Supply:**Machine shall be design for operation with 220 V AC (1 Phase, 50-60 Hz) line supply. Vendor shall supply require length of cable (~8 x 2 m) & 3-pin plug-top for connecting machine with the wall outlet.
7. **Machine Inspection & Acceptance:**Vendor must design and fabricate this machine at their workshop and supply/commission it at C-MET (Thrissur) for operation. Vendor should inform C-MET immediately upon completion of machine fabrication, so that C-MET staff can inspect machine performance at their factor. Machine can only be dispatched upon satisfactory acceptance of machine performance. If required, Vendor may desire for the stage-wise inspection of this machine also, prior to call for final performance demonstration
8. **Installation/Commissioning:** The machine should be supplied, installed and commissioned at C-MET (Thrissur) for operation at free of cost. However, if additional charges are involved for the machine installation/commissioning, that should clearly be mentioned in the **Fin. Bid**, which will be included with the cost of main item for financial comparison. Please note that vendor has to satisfactorily demonstrate the machine performance at C-MET and the machine will be accepted only after satisfactory performance demonstration
9. **Warranty:** Supplied machine must cover the Warranty of **Two Years** including the service, repair /maintenance (excluding spares and accessories to be required for extending the machine function for other usages). Warranty date will always be effective form the date of commissioning/ installation of instrument at C-MET.