

## **Form for Inviting Quotations**

**Reference No. AS/ISRO/CHIP/2014**

**Date: 25-10-2014**

**Subject:** Supply of components for lab use by Indian Institute of Technology Madras

**Quotation Due Date:** 15-11-2014

Dear Sirs:

Quotations are invited for supply of components as per details in Annexure-I under the following terms and conditions.

### **Terms and Conditions (Foreign Vendors/Suppliers):**

1. The total amount indicated is Ex. Works / FOB / CIF. Madras Value.
2. The consignment to be addressed to **Dr. Ashis Kumar Sen, 213 Hydroturbomachines Lab, Department of Mechanical Engineering, I.I.T. Madras, Chennai – 600 036, India.**
3. The consignment to be dispatched by surface / Air Post Parcel / Ocean Freight / Air Freight.
4. Please send three advance copies of Invoice direct to us immediately after dispatch to avoid delay in clearance. DEMURRAGE CHARGES, IF ANY, PAYABLE ON ACCOUNT OF DELAY IN RECEIPT OF ADVANCE COPIES OF INVOICE WILL BE DEBITED TO YOUR ACCOUNT.
5. The following set of documents is required in all cases:
  - a. Complete set of Clean Bill of Lading / Airway Bill / Air or surface Parcel Receipt, showing that the goods have been shipped and freight prepaid.
  - b. Insurance Policies / Certificates in duplicate covering Marine Insurance as per Institute Cargo Clauses (All risks) and perils as per Institute Strikes, Riots and Civil Commotion Clauses, War risks as per Institute, Clauses. Cover for CIF value plus 10 percent.

### **General Terms and Conditions:**

1. The Quotations duly sealed (2-bid system) and superscribed on the envelope with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above.
2. The Quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
3. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
4. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples if called for, should be submitted free of charges, and collected back at the supplier's expense.
5. Local Firms: Quotations should be for free delivery to this Institute. If Quotations for Ex-Godown delivery charges should be indicated separately.
6. Firms outside Madras: Quotations should be for F.O.R. Madras. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If Ex-Godown, packing, forwarding and freight charges must be indicated.

7. The rate of sales / General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for Sales / General Taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to non Government Educational Institutions run with no profit motive for which a concession. Sales Tax Certificate will be issued at the time of final settlement of the bill.
8. Goods should be supplied carriage paid and insured.
9. Goods shall not be supplied without an official supply order.
10. Payment : Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later

**ANNEXURE-I**

Sl. No.	Name of Equipment	Minimum Requirements	Quantity
01	Microthruster Chips	Please see next page.	09

Thank you.

Sincerely,

Dr. Ashis Kumar Sen

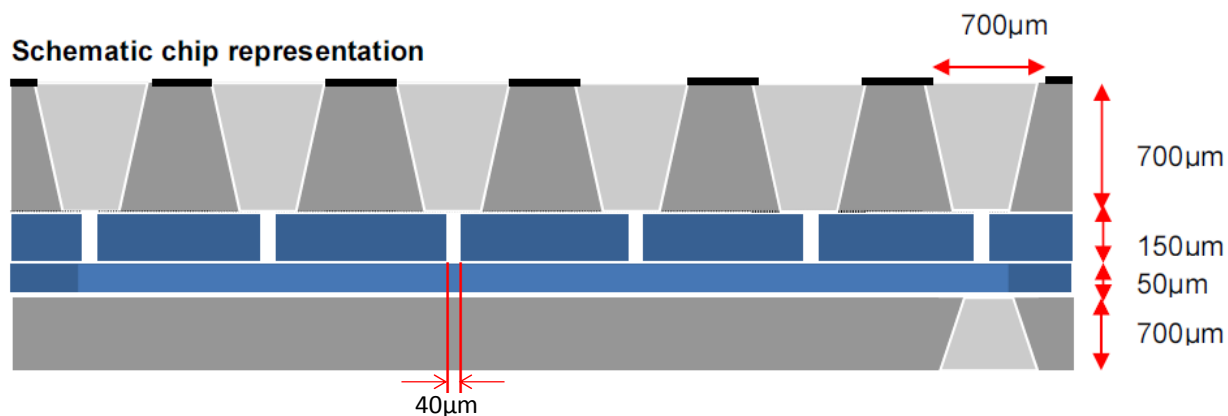
213, Hydroturbomachines Lab

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E-mail: [ashis@iitm.ac.in](mailto:ashis@iitm.ac.in)



DESIGN	Amount
Masks	4
Chips on one wafer	t.b.d.
Total amount of designs	1

TOP LAYER			Size	Tolerance
Material	Borofloat glass	Thickness	0.7mm	+/- 70µm
Electrode layer	Sputtering	Material (Seed layer)	Chromite	
		Thickness (Seed layer)	~50nm	
		Material (Top layer)	Gold	
		Thickness (Top layer)	~150nm	
Holes	Powderblasting	Large diameter	700µm	+/- 100µm
		Small diameter	250µm	+/- 50µm

NOZZLE LAYER			Size	Tolerance
Material	Permanent photo resist	Thickness	150µm	+/-15µm
Nozzles	Lithographic structured	Depth	Through layer	
		Minimum width	20-30µm	+/-3µm

CHANNEL LAYER			Size	Tolerance
Material	Permanent photo resist	Thickness	50µm	+/-5µm
Channels	Lithographic structured	Depth	Through layer	
		Minimum width	20µm	+/-2µm

BOTTOM LAYER			Size	Tolerance
Material	Borofloat glass	Thickness	0.7 mm	+/-0.1mm
Holes	Powderblasting	Large diameter	700µm	+/- 100µm
		Small diameter	250µm	+/- 50µm