



INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH  
THIRUVANANTHAPURAM (IISERTVM)  
(Govt. of India, Ministry of H.R.D)

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KERALA, INDIA.

Date: 13<sup>th</sup> March 2017

**INVITATION TO TENDER**

No: IISER/PUR/9187/KSA/SP/16

Due Date: 28<sup>th</sup> March 2017 [4PM]

Date of Opening: 29<sup>th</sup> March 2017 [3PM]

Dear Sirs,

**SUB: Micro Fluidic Chips.**

We invite Sealed Tenders for the following items:


Sl.No	Description
1	Micro Fluidic Chips Specifications as per annexure I

Please quote your lowest rate and shortest delivery period as per the following terms. Your offer in sealed cover **SUPERSCRIBING TENDER NUMBER AND DUE DATE** shall reach us on or before the due date and time. Please follow "Instruction to Tenderers" attached.

- EMD** : Rs.13,000/- to be deposited by way of fund transfer to IISER TVM Current Account No: 0745102000003766 (IFS Code IBKL0000745) or fund transfer through POS Machine available at F&A Office, IISER-TVM or Bank guarantee. Quotes received without a copy of Transaction slip / Debit Advice for the EMD amount transferred will be summarily rejected. [Tender No & Company Name must be mentioned in the remarks column, if fund is transferred through bank.]
- Payment** : Within 30 days after supply and installation/Net 30 days /LC. **No advance payment will be made by IISERTVM.**
- Delivery** : To be delivered at our stores (Free delivery). If import, mention Ex-works/FCA/CIP terms with clear breakup charges.
- Taxes & Duties** : Indicate taxes and duties. We are exempted for customs duty under 51/96 notification and Excise duty under 10/97 notifications.
- Discount** : Indicate, if any.
- Delivery Schedule** : Required Immediately. Indicate your schedule
- Validity of quote** : 60 days

Thanking You,

Yours Faithfully

  
Deputy Registrar (I/C)  
Purchase & Stores

**Please see the rear side for other Terms & Conditions**

- P.S.** (1) OUR PREVIOUS TENDER OF EVEN NO. DATED 27<sup>TH</sup> JANUARY 2017 (DUE DT. 14<sup>TH</sup> FEBRUARY 2017) STANDS CANCELLED AND THIS IS A RETENDER WITH SAME SPECIFICATIONS.  
(2) CATALOGUE/LEAFLET FEATURING ALL TECHNICAL SPECS/INFORMATION OF THE PRODUCT QUOTED SHALL ACCOMPANY THE OFFER.

# IISER-TVM

## INSTRUCTION TO TENDERERS [IMPORTS]:

1. **PRICE:** The price quoted shall be firm. The terms of FOB/EXW/FCA/CIF/CIP etc shall be clearly mentioned.
2. **AGENT & AGENCY COMMISSION:** In case Tenderer is represented by any agent in India, their name and address shall be furnished. The amount of commission included in the price shall be clearly shown in the offer; which will be paid directly to the Indian Agents by purchaser in equivalent Indian Rupees. Incase Indian agents existing and their agency commission is not shown in the Tender, reasons for the same shall be clearly mentioned in Tender. Details of Indian agent's statutory registration shall be stated. If Agency Commission is paid by Principals in foreign currency, the reasons for the same and exemption from Enforcement Directorate in India shall also be provided.
3. **LEAFLET/CATALOGUE:** Tenderer should furnish all necessary leaflet/catalogue etc., of the stores offered by him to enable the Purchaser to evaluate his offer correctly.
4. **MODE OF DESPATCH:** Tenderer shall indicate the mode of dispatch (*i.e.*, Sea/Air-freight/Parcel Post, etc.) depending upon the normal mode of dispatch adopted by him for the type of stores offered for consideration of the Purchaser.
5. **COUNTRY OF ORIGIN:** Tenderer shall indicate in his offer the country of origin of goods offered and the name and address of the manufacture.
6. **INSURANCE:** If insurance of the goods is felt necessary, the same shall be advised by the Tenderer in the offer.
7. **DELIVERY/SHIPMENT:** The time for and date of delivery quoted shall be reasonable/realistic and shall strictly be adhered to incase of placing order on the Tenderer.
8. **MODE AND TERMS OF PAYMENT:** Payment in full (excluding the amount of Agency Commission included in the price payable directly by the Purchaser to the Indian Agents in Indian Rupees) will be made immediately on presentation of the prescribed documents against SIGHT DRAFT or LETTER OF CREDIT or WIRE TRANSFER against shipping documents. **OURS BEING A GOVT OF INDIA EDUCATIONAL INSTITUTE WE ARE UNABLE TO MAKE ANY ADVANCE PAYMENT**
9. **WARRANTY:** Period of warranty and conditions shall be clearly mentioned in the Tender.
10. **GENERAL:** The Tenderer shall also be complied with the following:
  - a. Mention your Banker's name and address.
  - b. Show approximate net and gross weight and dimensions of packages/ cases. If dimensional details are available the same should also be indicated in your offer.
  - c. Furnish list of recommended spares for satisfactory operation for a minimum period of one year if the quote is for Plant & Machinery, Equipments etc.
  - d. Details of any technical service, if required for erection assembly, commissioning and demonstration.
  - e. Conform that the prices quoted are inclusive of all taxes, levies, duties arising in the tenderer's country.
  - f. Samples, if called for, will be sent free of all charges.
  - g. Late tenders and Delayed will not be considered.
  - h. Offers made by Indian Agents on behalf of their Principals, should be supported by the Proforma Invoice of their Principals.
  - i. The authority of person signing the tender, if called for, shall be produced.
  - j. The purchaser reserves the right to accept or reject the lowest or any other offer in whole or in part without assessing any reason.
11. **Tender Opening:** All tenders will be opened at **Pratheeksha Building**. Authorized representatives with **authorization letters** of the bidders may attend the Tender Opening.

## INSTRUCTION TO TENDERERS [INDIGENOUS]

1. Tenders should be sent in sealed envelopes superscribing the relevant tender no. and the due date of opening. Only one tender should be sent in each envelope.
2. Sales Tax and /or other duties/levies where legally levies and intended to be claimed should be distinctly shown separately in the tender.
3. (a). Your quotation should be valid for a minimum period of 90 days from the date of opening of the Tender. Quotation with firm prices will be preferred.  
(b). Prices are required to be quoted according to the units indicated in the Invitation to Tender. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
4. **(a) Preference will be given to those tenders offering supplies from ready stocks. The basis of delivery is at IISER site free of cost.**  
**(b) Our payment terms are within 30 days of receipt and acceptance of the item at our site.**
5. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.  
**Specifications:** Stores offered should strictly conform to our specifications. Deviations, if any should be clearly indicated by the tenderer in their quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary along with the quotations. Test Certificates wherever necessary should be forwarded along with supplies. Whenever specifically mentioned by us the tenderer could suggest changes to specifications with appropriate reasons for the same.
6. IISER shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rates quoted.
7. Corrections, if any, in the Quotation must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail. Quotation must have price for each line item and totaling of the price including taxes and duties should be clearly mentioned.
8. The tenderer should mention the name of his bankers, Sales Tax Registration, PAN number etc in the tender.
9. The authority of the person signing the tender, if called for, should be produced.
10. IISER being a Govt of India Educational and Research Institute, is exempted from payment of Excise Duty under Notification No. 10/97 and Customs Duty under Notification No. 51/96- Customs dated 23<sup>rd</sup> July 2009. Also, we can issue Form16 as per VAT Rules.
11. The stores supplied should be covered with minimum of 1 year warranty from the date of supply, installation and commissioning.
12. Earnest Money Deposit/ Bid Security should be submitted alongwith your quote as mentioned in Invitation for Tender. EMD should be in favour of Indian Institute of Science Education and Research Thiruvananthapuram valid for 90 days.

### Micro-fluidic Chips

Sl. No.	Specifications	Description	Quantity
1	Small Quartz Droplet Chip (5 $\mu$ m etch depth)	Channel cross-section at junction (depth x width): $\geq 5 \times 8\mu\text{m}$ Wide channel cross-section (depth x width): $\geq 5 \times 491\mu\text{m}$ Droplet size range: 2-10 $\mu\text{m}$ Chip format: 3 input ports, 1 output port Chip size (length x width x thickness): 22.5 x 15 x 4mm (minimum) Port size: 500 $\mu\text{m}$ Channel length after junction : $\geq 27.4$ mm Back pressure with 10 $\mu\text{l/min}$ flow of water : 17.5bar Max. operating pressure : $\geq 30$ bar Material : Quartz Chanel coating: Hydrophilic	01
2	Small Droplet Chip (14 $\mu$ m etch depth)	Channel cross-section at junction (depth x width): $\geq 14 \times 17\mu\text{m}$ Wide channel cross-section (depth x width): $\geq 14 \times 500\mu\text{m}$ Droplet size range: 5-30 $\mu\text{m}$ Chip format: 3 input ports, 1 output port Chip size (length x width x thickness) : 22.5 x 15 x 4mm (minimum) Port size: 500 $\mu\text{m}$ Channel length after junction : 27.4 mm Back pressure with 10 $\mu\text{l/min}$ flow of water : 0.7bar Max. operating pressure : $\geq 30$ bar Material : Glass Chanel coating: Hydrophobic	01
3	Small Quartz Droplet Chip (5 $\mu$ m etch depth)	Channel cross-section at junction (depth x width): $\geq 5 \times 8\mu\text{m}$ Wide channel cross-section (depth x width): $\geq 5 \times 491\mu\text{m}$ Droplet size range: 2-10 $\mu\text{m}$ Chip format : 3 input ports, 1 output port Chip size (length x width x thickness) : 22.5 x 15 x 4mm (minimum) Port size : 500 $\mu\text{m}$ Channel length after junction : 27.4 mm Back pressure with 10 $\mu\text{l/min}$ flow of water : 17.5bar Max. operating pressure : $\geq 30$ bar Material : Quartz Chanel coating: Hydrophobic	01
4	Droplet Junction Chip with header (100 $\mu$ m etch depth)	T-junction channel format: 2 inputs and 1 output X-junction channel format : 3 inputs and 1 output Channel cross-section at junction (depth x width): $\geq 100\mu\text{m} \times 105 \mu\text{m}$ Wide channel cross-section (depth x width): $\geq 100\mu\text{m} \times 300\mu\text{m}$ Channel length after junction : $\geq 11.25$ mm Volume of channel after junction : 0.31 $\mu\text{l}$ Back pressure with 100 $\mu\text{l/min}$ flow (water) : 0.02bar	01

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13/03/16



		<p>Chip size (length x width x thickness) : 22.5 x 15 x 4mm (minimum) Operating pressure: <math>\geq 30</math>bar Material: glass Channel coating: Hydrophobic</p>	
5	Quartz Droplet Junction Chip (100 $\mu$ m etch depth)	<p>T-junction channel format: 2 inputs and 1 output X-junction channel format : 3 inputs and 1 output Channel cross-section at junction (depth x width): <math>\geq 100\mu\text{m} \times 105 \mu\text{m}</math> Wide channel cross-section : <math>\geq 100\mu\text{m} \times 300\mu\text{m}</math> (depth x width) Channel length after junction : 11.25 mm Volume of channel after junction : 0.31ul Back pressure with 100ul/min flow (water) : 0.02bar Chip size (length x width x thickness) : 22.5 x 15 x 4mm (minimum) Operating pressure: <math>\geq 30</math>bar Material: Quartz Channel coating: Hydrophobic</p>	01
6	Droplet Junction Chip with header (190 $\mu$ m etch depth)	<p>T-junction channel format: 2 inputs and 1 output X-junction channel format : 3 inputs and 1 output Channel cross-section at junction (depth x width): <math>\geq 190\mu\text{m} \times 195 \mu\text{m}</math> Wide channel cross-section : <math>\geq 190\mu\text{m} \times 390\mu\text{m}</math> (depth x width) Channel length after junction : 11.25 mm Volume of channel after junction : 0.74ul Back pressure with 100ul/min flow (water) : 0.02bar Chip size (length x width x thickness) : 22.5 x 15 x 4mm (minimum) Operating pressure: <math>\geq 30</math>bar Material: glass Channel coating: Hydrophobic</p>	01
7	Quartz Droplet Junction Chip (190 $\mu$ m etch depth)	<p>T-junction channel format: 2 inputs and 1 output X-junction channel format : 3 inputs and 1 output Channel cross-section at junction (depth x width): <math>\geq 190\mu\text{m} \times 195 \mu\text{m}</math> Wide channel cross-section : <math>\geq 190\mu\text{m} \times 390\mu\text{m}</math> (depth x width) Channel length after junction : 11.25 mm Volume of channel after junction : <math>\geq 0.74\text{ul}</math> Back pressure with 100ul/min flow (water) : 0.02bar Chip size (length x width x thickness) : 22.5 x 15 x 4mm Operating pressure: <math>\geq 30</math>bar Material: Quartz Channel coating: Hydrophobic</p>	01
8	T connector	<p>T- Connector: 0.5mm inner diameter for 1.6mm outer diameter Pipe.</p>	02

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9	Circular Connector	Input ports: 8 Operating Pressure: $\geq 20$ bar Chip width options: $> 12$ mm Chip length options: 12mm-90mm Chip thickness: 2-4mm	02
10.	Standard Chip 100um Channel depth	Number of inputs: 4 Number of outputs :2 Channel cross-section at junction, (depth x width) : $\geq 100\mu\text{m} \times 105 \mu\text{m}$ Wide channel cross-section, (depth x width) : $\geq 100 \mu\text{m} \times 300 \mu\text{m}$ Channel length after junction :197 mm Volume of channel after junction : 5.9ul Back pressure with 100ul/min flow (water): 0.2bar Chip size (length x width x thickness) : 45mm x 15mm x 4 mm (minimum) Operating pressure : $\geq 20$ bar Material :Glass Channel coating :Hydrophobic	02
11	Special Order Chip 50um Channel depth	Number of inputs: 4 Number of outputs :2 Channel cross-section at junction, (depth x width) : $\geq 50\mu\text{m} \times 55 \mu\text{m}$ Wide channel cross-section, (depth x width) : $\geq 50 \mu\text{m} \times 250 \mu\text{m}$ Channel length after junction :197 mm Volume of channel after junction : 2.5ul Back pressure with 100ul/min flow (water): 01.5bar Chip size (length x width x thickness) : 45mm x 15mm x 4 mm (minimum) Operating pressure : $\geq 20$ bar Material :Glass Channel coating :Hydrophobic	01
12	Flow Resistor Kit	This kit should contain a minimum of 5 flow resistors for the following flow rates. <ol style="list-style-type: none"> <li>1. Min flow rate: <math>\leq 0.02\mu\text{l}/\text{min}</math>, Max flow rate: <math>\geq 10\mu\text{l}/\text{min}</math></li> <li>2. Min flow rate: <math>\leq 0.06\mu\text{l}/\text{min}</math>, Max flow rate: <math>\geq 30\mu\text{l}/\text{min}</math></li> <li>3. Min flow rate: <math>\leq 0.2\mu\text{l}/\text{min}</math>, Max flow rate: <math>\geq 100\mu\text{l}/\text{min}</math></li> <li>4. Min flow rate: <math>\leq 0.6\mu\text{l}/\text{min}</math>, Max flow rate: <math>\geq 300\mu\text{l}/\text{min}</math></li> <li>5. Min flow rate: <math>\leq 2\mu\text{l}/\text{min}</math>, Max flow rate: <math>\geq 1000\mu\text{l}/\text{min}</math></li> </ol> This kit should contain 5 sets of all required flow accessories.	02

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