

Government of India
Bhabha Atomic Research Center
Pulsed Power & Electromagnetics Division

Ref: PP&EMD/BARCV/22-23/WO/AKD/001

Date: 21/09/2022

SUB: Inviting quotations for “**Repair of shock pressure calibrator setup, supply and fabrication of shock pressure sensor, sensor signal conditioner and shock measurement chamber as per given technical specifications and Drawings**”

Dear Sir,

1. Quotations are invited for the supply, Repair, fabrication and warranty work, as per the enclosed specification and drawing
2. Bidder shall quote for supply, repair, fabrication and warranty work.
3. Taxes shall be quoted separately.
4. The quotation must reach the Head, Pulsed Power & Electro-Magnetics Division by date 06/10/2022 and must be sent in a sealed, printed envelope superscripted with reference number and the due date given above by **4:00 PM**.
5. The address of the envelop should read –
K.A.- Mr. Avaneesh Kumar Dubey,
C/O: Dr. Archana Sharma
Pulsed Power & Electro-Magnetics Division,
PEB-1, Bhabha Atomic Research Centre,
Gandivanipalem Village, Dossuru Panchayat,
Atchutapuram Mandal, Visakhapatnam, Andhra Pradesh- 531011
6. Head, PP&EMD reserves the rights to accept/ reject any or all quotations without assigning any reasons.
7. Quotation must also indicate the validity of offer & required delivery time.
8. Quotations are to be in printed letter-head / quotation format only. Quotation received in computer-generated forms will be considered as invalid and rejected.
9. Quotation should consist of Sales Tax registration number (Registered with local ST / CST authority), PAN number of the firm, services tax registration number etc.
10. Claim preferred by the firms are also be in printed INVOICE format consisting of the above registration numbers.
11. No Free issue material will be given
12. In case of any query, the party can contact on avaneeshd@barc.gov.in, ph. No +91-9869829948 between 10am to 5pm.

Approving Authority



(Dr. Archana Sharma)
Head PP&EMD & Director BTDG
BARC, Mumbai

श्री. (श्रीमती) अर्चना शर्मा / ARCHANA SHARMA
निदेशक / Director
किरणपुंज प्रौद्योगिकी विकास वर्ग
Beam Technology Development Group
भारत सरकार / Government of India,
भा.प.अ. केंद्र / B. A. R.C.
ट्रॉम्बे, मुंबई / Trombay, Mumbai - 400 085.

Annexure-II

General Terms and Conditions

Quality surveillance, inspection and inspection report:

- 2.0 All work covered by the inspections shall be subjected to quality surveillance by the purchaser or his authorized representatives for which purpose the fabricator shall allow access at all reasonable times during manufacture to
 - 2.1 The premises in which the work is being carried out.
 - 2.2 The drawings and or tooling involved.
 - 2.3 Gauges, instruments etc. required for inspecting the work.
 - 2.4 Inspection and tests shall be carried out by the fabricator as per the requirements detailed in the drawings and these specifications.
 - 2.5 The fabricator shall submit three copies of inspection reports to the purchaser for approval.
 - 2.6 Components found unsatisfactory as to workmanship or material shall be removed by the fabricator and replaced by the components which is satisfactory.
 - 2.7 The finished components shall not be dispatched prior to approval by our Engineer.

2. Raw Material

- 2.0 Raw Material for all the components and hardware will be provided by the supplier.

3. Delivery

- 3.0 The bidder shall deliver the finished components after approval by our Engineer within 6 weeks from the date of work order at BARC, Visakhapatnam.
- 3.1 In case any extension in delivery is to be granted to the contractor, parties should make request for extension in writing justifying the reason for extension.
- 3.2 Any delay which is attributable to the contractor is liable for penalty @ ½% per week (max. 5%) to be imposed on the contractor.

4. Sub Contract

- 4.0 The fabricator shall not sub-contract any or all the work without written consent from the purchaser. The fabricator shall be responsible to the purchaser for all of the sub-contractor of the fabricator, if at all allowed by the purchaser.

5. Taxes

- 5.0 GST as applicable

6. Payment

- 6.0 Payment will be made only after satisfactory completion of work and on production of Invoice with details of location of supply, separate tax components, GSTN and PAN, receipt cum issue voucher from stores, advance stamped receipt, and guarantee certificate (4 nos.) and Bank details.
- 6.1 Advance/ part payment or against delivery cannot be made.
- 6.2 It may be noted that Income Tax at 2% and surcharge on IT at the rate applicable will be deducted from the bill.
- 6.3 TDS @ 2% will be deducted on payments made to the supplier of taxable goods and/ or services where the total value of such supply, under an individual contract, exceeds 2.5 lakhs.

7. Confidentiality:

- 7.0 No party shall disclose any information to third party concerning the matters under this contract generally. In particular, any information identified as "PROPRIETARY" in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.
- 7.1 "RESTRICTED INFORMATION" categories under section 18 of the Atomic Energy Act, 1962 and "OFFICIAL SECRETS" under section 5 of the Official Secrets Act, 1923: -
Any contravention of the above mentioned provisions by any contractor, sub-contractor, consultant, advisor or the any employees of a contractor will invite penal consequences under the aforesaid legislation.
- 7.2 Prohibition against use of BARC's name without permission for publicity purpose: -

The contractor or sub-contractor, consultant, advisor or the employees engaged by the contractor shall not use BARC's name for publicity through any public media like press, radio, T.V., or internet without the prior written approval from BARC. (vide circular ref: 2/Misc-9/Lg1/2001/92 dated April 30, 2001)

8. Guarantee:

8.0 Party has to provide guarantee for a period of 1 year from the date of delivery, for material quality & workmanship. Guarantee certificate (4 copies) have to be provided along with the bills.

9. Acceptance criteria:

9.0 All the specifications of each items have to comply to get accepted.

9.1 Installation and testing are in supplier's scope.

9.2 Any consumable items required during installation and commissioning has to be provided by supplier.

Archana
26-9-2022

(Dr. Archana Sharma)
Head PP&EMD & Director BTDG

BARC, Mumbai
(श्रीमती) अर्चना शर्मा / ARCHANA SHARMA

किरणयुज प्रायोगिक विकास वर्ग
Beam Technology Development Group
भारत सरकार / Government of India,
भा.प.अ. केंद्र / B. A. R.C.
/ Trombay, Mumbai - 400 085.

Technical Specification & Scope of work

Technical specifications of **Repair of shock pressure calibrator setup, supply and fabrication of shock pressure sensor, sensor signal conditioner and shock measurement chamber.**

1. Repairing of shock pressure calibrator setup

Shock pressure calibrator setup is 3-meter length galvanized iron hollow tube having opening and flange joint at opposite end to accommodate the pressure sensor. Now this joint has been opened which need to be welded properly.

2. Shock measurement chamber of SS

Fabrication of Pressure measurement chamber as per dimensions given in attached drawing to accommodate water around the shock wave generator system.

Qty: 1Nos. (one)

Note: 5% dimensional change with prior notice has to be accepted by the supplier.


3. Supply of shock pressure sensor & signal conditioner

Supply of shock pressure sensor and its signal conditioner as per attached sheet of technical specifications of pressure sensor and signal conditioner

Qty: 1 No. Each.

4. Warranty

Minimum 1-year on-site warranty for all supplied equipment from the date of supply against any fault.


26-9-2022

(Dr. Archana Sharma)
Head PP&EMD, Director BTDG
BARC, Mumbai

डॉ. (श्रीमती) अर्चना शर्मा / ARCHANA SHARMA

निदेशक / Director

किरणपुंज प्रौद्योगिकी विकास वर्ग

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Technical Specifications of Pressure sensor and signal conditioner

Technical specifications of Pressure sensor:-

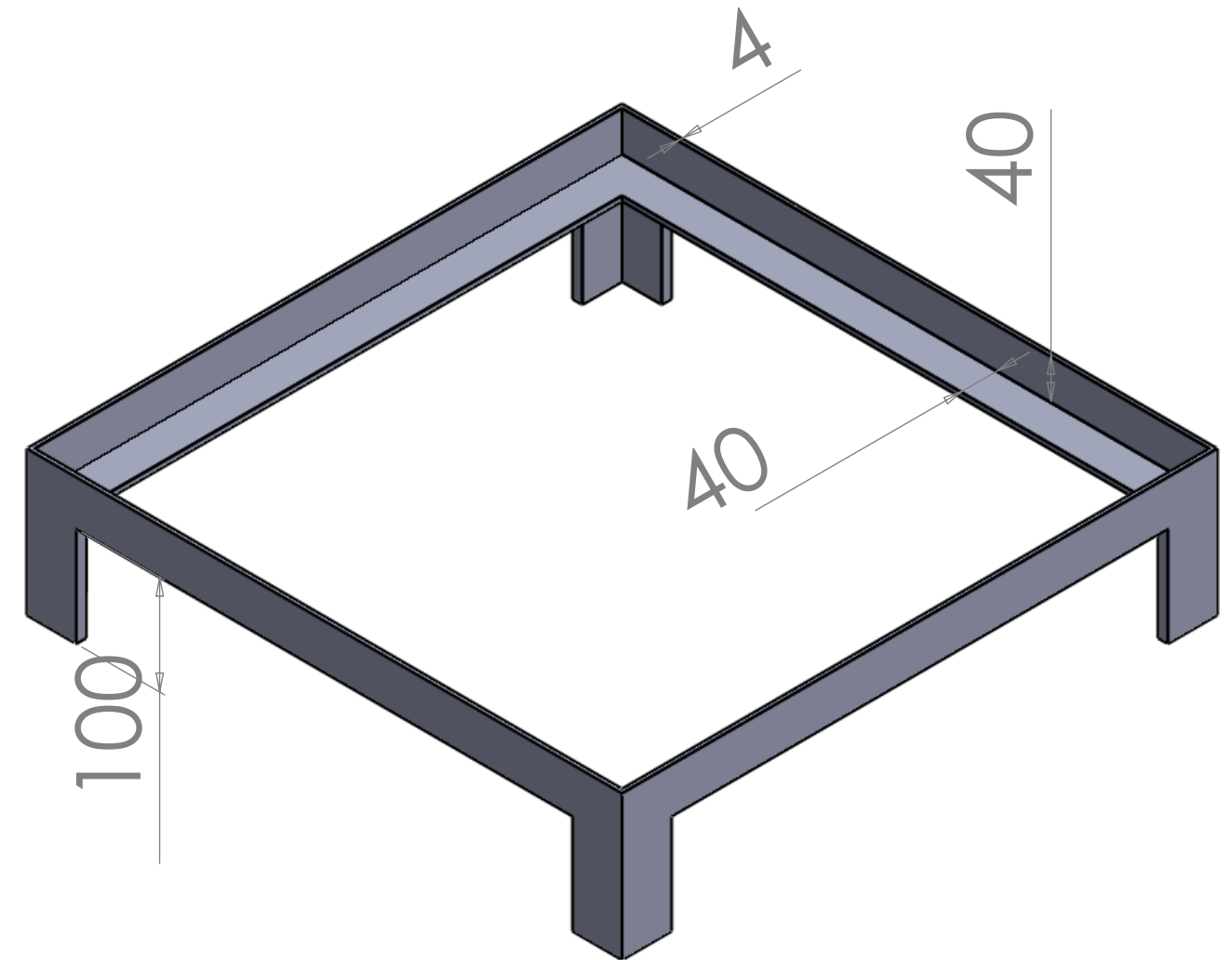
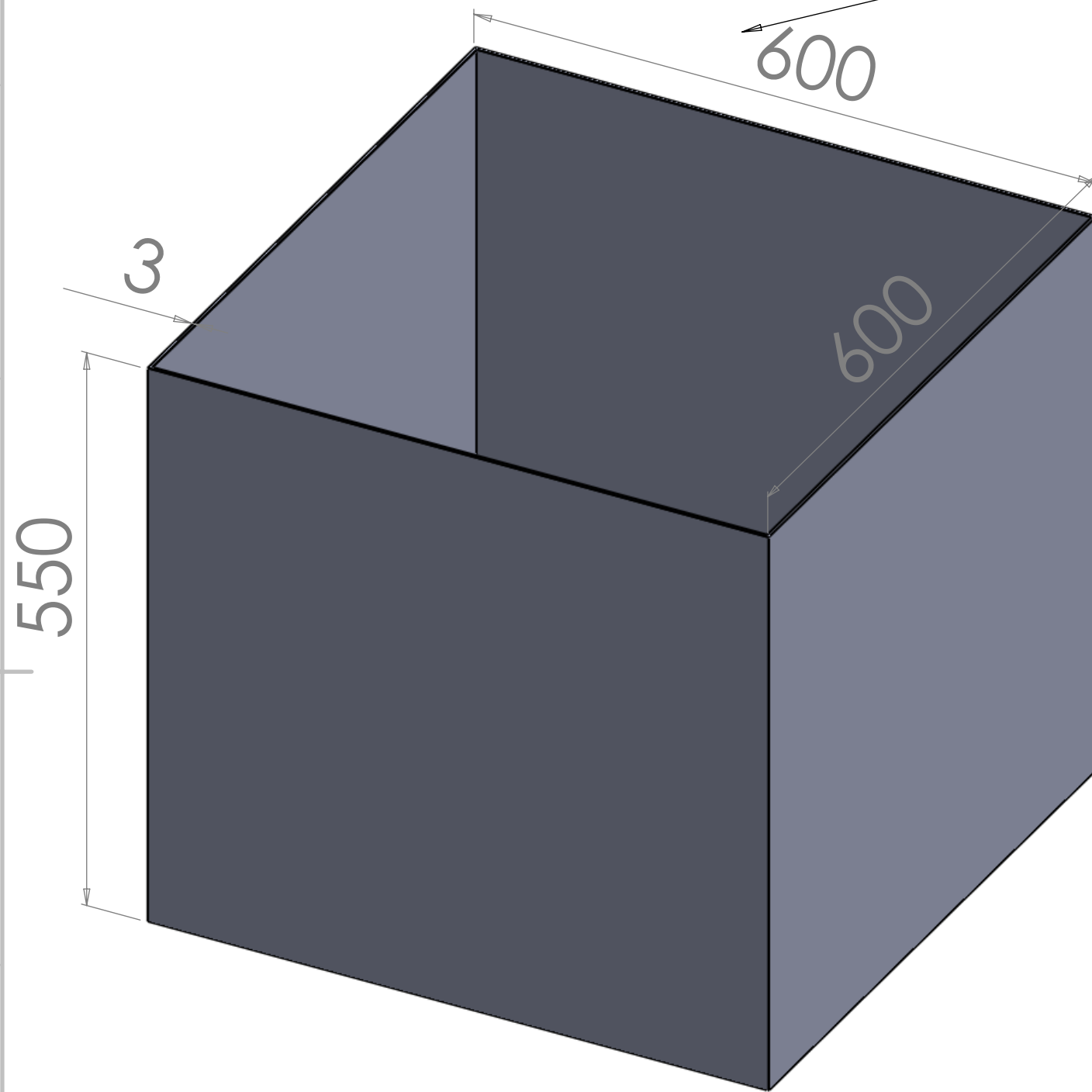
Measurement range (for $\pm 4.5V$ output)	30kpsi
Sensitivity ($\pm 15\%$)	0.15mV/psi
Maximum Pressure	50kpsi
Resolution	500 mpsi
Rise time	$\leq 2\mu$ sec
Resonant Frequency	≥ 250 kHz
Low frequency response (-5%)	0.002Hz
Non- Linearity	$\leq 2\%$ FS
Acceleration sensitivity	≤ 0.05 psi/g
Maximum Vibration	2000 g pk
Maximum Shock	20,000 g pk
Discharge Time Constant (at room temp)	≥ 250 sec
Excitation Voltage	20-30 VDC
Constant current Excitation	2 to 20mA
Output Impedance	≤ 100 ohm
Output Bias Voltage	8- 14 VDC
Housing material	C-300
Diaphragm	C-300
Sealing	Welded hermetic
Electrical Connector	10-32 Coaxial Jack

Technical specifications of signal conditioner:-

Channels	3
Frequency Range (-5%)($\times 1, \times 10$ & $\times 100$ Gain)	0.15 to 100,000 Hz for $\times 1$ & $\times 10$ Gain and 0.15 to 50,000Hz for $\times 100$ Gain
Voltage Gain ($\pm 2\%$)	1:1, 1:10 & 1:100
Excitation Voltage (to sensor)	25 to 29 VDC
Constant current Excitation(± 0.25) (to sensor)	2.0 to 3.2 mA
Discharge time constant	> 7 sec
Power required (standard)	Internal battery
Electrical connector(Input, sensor)	BNC Jack
Electrical connector(Output, scope)	BNC Jack
Electrical connector(External power, DC)	DIN Jack

Note- all the connecting cables including Low noise coaxial cable, 10ft, 10-32 coaxial plug to BNC and Low noise coaxial cable, 10ft, BNC plug to BNC plug must be provided.

All dimensions are in mm material :SS



Shock Measurement Chamber

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:				FINISH:		DEBURR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION					
						TITLE: shock measurement chamber									
DRAWN				NAME				SIGNATURE				DATE			
CHK'D															
APPV'D															
MFG															
Q.A												MATERIAL:			
												DWG NO.			
												SCALE:1:10			
												WEIGHT:			
												SHEET 1 OF 1			

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