



GOVERNMENT OF INDIA  
BHABHA ATOMIC RESEARCH CENTRE  
INTEGRATED FUEL FABRICATION FACILITY  
TROMBAY, MUMBAI – 400 085.

Ref: IF3/AMD/17/ *177A72*

Date: - 09/10/2017  
*10*

Dear Sir/ Madam,

**Sub: Design, Fabrication and Supply of End plug Welding Fixture.**

For & on behalf of The President of India your sealed offer on printed letter head of your company is invited for "Design, Fabrication and supply of End plug Welding Fixture". The scope of work, technical requirements and general terms & conditions are as per enclosed specifications.

Quotation should indicate GST registration number, PAN of the firm. Your offer in sealed envelope should be addressed to:

HEAD, INTEGRATED FUEL FABRICATION FACILITY  
Attn.: Shri. A. M. Dave  
Scientific Assistant (F)  
Integrated Fuel Fabrication Facility  
BARC, Mumbai. - 400 085.

Duly marked with above reference no. & due date 27-10-2017 on the envelope and reach us by 27-10-2017.

You are requested to send your offer by Registered / Speed post only. Courier or Hand delivery of quotation is not acceptable.

- Encl: 1. Technical Specifications.  
2. Block diagram of Welding fixture.

*A. M. Dave*  
*9/10/17*  
(A. M. Dave)  
SA/F, IF3

*S. Jana*  
*10/10/17*  
(S Jana)  
SO/F, IF3

For & on behalf of President of India

## **Technical Specifications**

### **1. Scope of work:**

- i) Design, fabricate and supply of End plug welding fixture for GTAW welding process as per enclosed block diagram and technical specifications.
- ii) Before start of fabrication, vendor has to design the fixture and get approval of its fabrication design.
- iii) Scope of Supply: welding fixture.
- iv) Supply of operation manual of all the instrument used for the fixture.
- v) Fabrication drawings of all components, assembly drawing of fixture and Electrical wiring diagram shall be provided.
- vi) Proper placement & labeling of electrical components and tagging of wire to ensure easy access corresponding with wiring diagram.

### **General note for Design of Welding fixture**

#### **Drive fixture:**

- i) Fixture shall be made to firmly grip thin clad tubes of diameters ranging from 3 to 15 mm and lengths from 150 to 1100mm without damage or permanent deformation to the tubes.
- ii) The fixture shall incorporate the provision of tube rotation at required rpm (range 0.3 to 30 RPM) via coupling of the collet housing to the external rotary drive.
- iii) Tube with plug will be loaded from same side/end of the fixture.
- iv) Rotation of tube shall be within 0.02 mm (TIR)
- v) Collet gripping may be done by manual system.
- vi) Tube should not slip from the collet during welding.
- vii) Fixture shall be mount on the SS base plate of at least 3 mm thick
- viii) SS top Sheet shall have buffed finish.

#### **Collet for tube:**

- ix) ER Collets of standard make and easily available in market shall be used.
- x) Vendor has to supply collets for tubes from 3 to 15 mm in step of 1 mm.
- xi) Thickness of tubes will be from 0.25 to 3 mm.(for reference)
- xii) For our purpose ER Collets of given size shall be made from Commercial copper at the time of fabrication.
- xiii) In collet housing collet nut size shall be lower than shaft/housing.

#### **Rotary Drive:**

- xiv) Speed shall be from 0.3 to 30 RPM.
- xv) Single phase AC motor with VFD shall be used to control speed.
- xvi) Separate panel mounted RPM indicator shall be provided.
- xvii) Driving motor may be mounted below working table.
- xviii) For changing speed on VFD, panel mounted thumb wheel control shall be used.

#### **Table with panel:**

- xix) Mounting table shall be made from MS square channel of size 50 x 50 and 3 mm thickness. All weld joint should be ground finish with no sharp edges.
- xx) All MS frames made of angles and channels shall have grinding finish and painted by primary coat of red oxide paint and followed by epoxy paint. Grey/Green color paint shall be applied on the MS frames of the trolley.
- xxi) Panel consist: Main ON-OFF, Set RPM, Rotation ON-OFF, RPM indicator, Collet holding ON-OFF, Welding time ON, Set welding time, welding ON.
- xxii) Tag of all switches shall be provided on the panel.

- xxiii) Sequence of switches shall be confirmed before fixing on the panel.
- xxiv) SS Sheet with buffed finish of at least 2mm thickness shall be mounted on the Top.
- xxv) Sufficient stiffeners shall be provided below the Top Sheet.
- xxvi) In panel switches shall be provided as per shown in sketch.

## **2. Terms & Conditions:**

- 2.1 No Free Issue Material (FIM) shall be issued to the supplier by the purchaser for carrying out the work.
- 2.2 Only when the assent of the purchaser for the delivery of the finished Welding fixture is received, then the items shall be suitably packed, to prevent any damage during transportation, and delivered to the purchaser's site.
- 2.3 Before final packing prior to dispatch and delivery of the Fixture, the fixture shall be cleaned so that no dirt, dust, grease or any other stains are present on the surface.
- 2.4 1 year guarantee for quality of material, manufacturing and workmanship shall be provided by the supplier for all the items procured through this work order. If during this guarantee period any item is found to be defective or fails to perform the function it is meant for, then it shall be repaired or replaced with a new one.
- 2.5 All work pertaining to fabrication of welding fixture shall be performed by the supplier and no help or assistance of any sort shall be extended from purchaser's side.
- 2.6 Supplier shall agree to some minor changes in connection with the fabrication of Welding fixture as and when they arise & are communicated by the purchaser during the course of execution of the work order.
- 2.7 For any doubts regarding the specifications and to assess the scope of work involved, supplier may visit the purchaser's site with prior appointment of the undersigned. For taking appointment or in case of any queries, supplier may contact Shri A. M. Dave (Tel. 022 2559 4528/6528) during office hours.
- 2.8 Taxes, if any, shall be specified separately apart from the base cost.
- 2.9 Validity of offer (minimum 90 days) and work completion period shall be clearly mentioned in the offer letter.
- 2.10 Income tax @ 2% of amount of bill will also be deducted from the supplier's bill.
- 2.11 Quotations are to be in printed letter head / quotation format which should consist of GST registration number from concerned authority.
- 2.12 Quotations that are received in by email, fax, any other computer generated form without signature, handwritten etc shall be considered as invalid & rejected.
- 2.13 Payment will be arranged after satisfactory completion of work and on production of, a) Bills in triplicate, b) Advanced stamped receipt, c) Warranty/ Guarantee Certificate.  
**Advance, Part Payment or against delivery cannot be made.**
- 2.14 Any delay which is attributed to the supplier is liable for penalty @ ½ % per week (Max 5%) to be imposed on supplier.
- 2.15 To enter BARC premises persons are required to have Police Verification Certificate (PVC). Suppliers are requested to get PVC of their persons who are expected to come for work inside BARC.
- 2.16 Supplier has to deliver the welding fixture to Stores Officer, Zonal Stores, South Site, BARC, Trombay, Mumbai 400 085 without any damages.

**3. Offer evaluation procedure:-**

- 1) *Vendors who are having a successful history of fulfilling similar kind of fabrication order will be given preference.*
- 2) *Reputed Vendors having ISO or equivalent certification shall be preferred.*
- 3) *Vendor must have in house machinery like Turning lathe, Precision Digital measuring instruments etc.*
- 4) *Vendor must have separate clean assembly room for assembly of components.*
- 5) *Vendor must have clean dust free inspection lab & dedicated inspection team for measurement of components.*
- 6) *Final vendor's evaluation may be done by physical verification of vendor's facility and experience by departmental staff.*
- 7) *Quotations with design drawings/sketches with complete specification will be preferred.*
- 8) *Vendor must have qualified technical staff for mechanical and electrical work.*

**Requirements in offer document:-**

- 1) *Your sealed offer (not stapled) super scribed with above reference number & date, due date & subject to be addressed to as mentioned and must reach us on or before due date & time as mentioned by Registered/SPEED POST only. Offer received by other methods are considered invalid.*
- 2) *Quotations are to be in printed letter head (not computer generated format) and must be neatly type written/printed. Quotation format should GST no, PAN of the firm etc. Quotations that are received in computer generated form are to be considered as invalid & rejected.*
- 3) *Vendor's offer document must clearly mention agree/disagree/comments against each of our specification item in sequential manner.*
- 4) *Experience: - Vendor shall mention in offer document regarding their past experience in working with any BARC/DAE unit and carrying out of similar jobs. Experience of Design and fabrication of welding fixture is a pre-requisite for vendor qualification. A declaration is expected in offer document in this regard.*
- 5) *Facility: - Vendor must have required machinery and inspection tools, qualified & experienced staff, clean & ample workshop premises & other infrastructure for execution of the work. A declaration regarding facilitates shall be mentioned in offer document. Customer's representative may physically assess vendor's facility for vendor evaluation.*
- 6) *Pricing: - Offer pricing must be valid for entire duration of contract. Offered cost shall be for the entire scope of work pertaining to vendor.*

- 7) *Taxes & Duties: - Any taxes and duties to be levied over and above offered price must be mentioned clearly in offer document.*
- 8) *Offer validity: - Offer must be valid for a period of at least 90 days from due date of opening of quotation.*
- 9) *Delivery period: offer must have delivery period.*
- 10) *Offer format should be as per the attached annexure.*
- 11) *Vendors shall return the drawing(s) (hard copy) or destroy (soft copy) even if they are not offering the quotation.*
- 12) *There may be minor changes in some dimensions in the drawing and these changes shall be informed by purchaser well in advance of fabrication as and when required. Vendor shall agree to accept those changes in drawings.*
- 13) *Any terms & conditions could not be met by vendor shall be clearly mentioned in the offer document.*
- 14) *Name and contact details corresponding person to be mentioned or conveniently a visiting card may be attached.*

**4. Confidentiality Clause:-**

**I. Confidentiality:-**

No party shall disclose any information to any 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 confidentially by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.

This clause shall apply to the sub-contractors, consultants, advisers or the employees engaged by a party with equal force.

**II. "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 adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.

**III. Prohibition against use of BARC's name without permission for publicity purposes.**

The contractor or sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use BARC's name for any publicity purpose through any public media like Press, T.V. or Internet without the prior written approval of BARC.

(A. M. Dave)  
SA/F, IF3

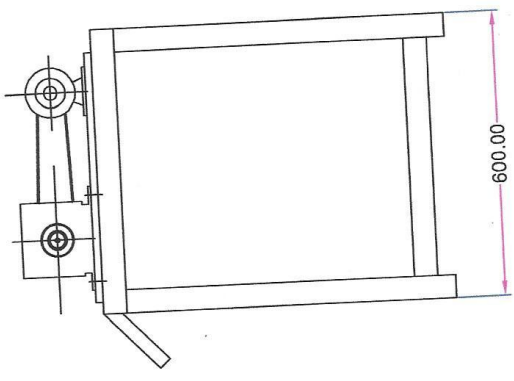
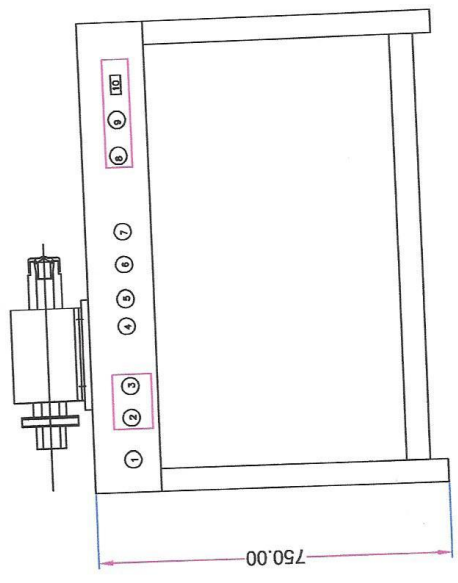
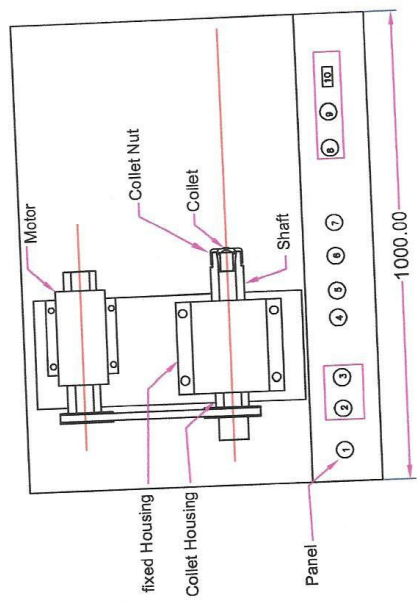
## Annexure

| Sr. No. | Job Description  |                          |
|---------|--|--------------------------|
| 1       | Design, Fabrication and supply of End plug Welding Fixture | <i>1 no</i>              |
| 2       | <b>Basic cost</b>  | <b><i>In Rupees</i></b>  |
| 3       | Applicable taxes<br>i.e. GSTN %                            | <i>In %</i>              |
| 4       | P & F Charges  | <b><i>In Rupees</i></b>  |
| 5       | <b>Gross</b>   | <b><i>In Rupees</i></b>  |
| 6       | Payment Required   | <i>Payment condition</i> |
| 7       | Offer Validity   | <i>In months</i>         |
| 8       | Delivery Period  | <i>In months</i>         |
| 9       | Inspection <i>At suppliers site</i>                        | <i>YES/NO</i>            |
| 10      | Any other specific requirement                             |                          |
| 11      | Contact person   | <i>Phone nos.</i>        |

| Sr. No | Description          | Type of Switch   | Backlight | Colour |
|--------|----------------------|------------------|-----------|--------|
| 1.     | Main Switch          | Selector         | Y         | Green  |
| 2.     | Vacuum pump "ON"     | Push             | Y         | Green  |
| 3.     | Vacuum Pump "OFF"    | Push             | Y         | Red    |
| 4.     | Vacuum "ON"          | Selector         | (2 step)  | Amber  |
| 5.     | Inert Gas "ON"       | Selector         | (2 step)  | Green  |
| 6.     | Motor/ Rotation "ON" | Push             | y         | Blue   |
| 7.     | Speed Adjustment     | Toggle/Pot meter | Y         | Red    |
| 8.     | Weld Timer "ON"      | Push             | Y         | Green  |
| 9.     | Weld "ON"            | Push             | Y         | Green  |
| 10.    | Weld Timer           | Selection (XT56) |           |        |

### Welding Fixture

Schematic Diagram (For Reference only)



*Handwritten signature and date: 4/10/16*