

# TECHNICAL SPECIFICATION FOR VERTICAL SHEET METAL FORMING FIXTURE

## 1.0. Scope of work

Manufacturing and installation of sheet metal fixture for roboforming operation.

### Key Features:

1. The fixture outer frame should be rigid enough to resist minimum of 5000N push force by the robot end effector, without any considerable elastic deformation.
2. The fixture should allow provision to mount a range of blank sizes and thickness by means of automatic or semi-automatic clamping system.

## 2.0. Technical specifications

### 2.1. Fixture frame specifications

Parameters	Values or Notes
Maximum blank size	1500 mm x 1000 mm
Minimum blank size	atleast 100 mm x 100 mm
Sheet Mounting position	Vertical
Sheet metal blank thickness	Minimum 0.5 mm to 2.6 mm
Fixture Mounting Method	Floor Mounting by chemical Grouting
Minimum height of the fixture from the ground	atleast 300 mm
Control for moving fixture links for flexible holding	Precision control preferred Servo drive
a. Position accuracy	± 0.1 mm or better
b. Safety measure	Limit switch, emergency stop, Over travel Protection
Ambient Temperature	40 Degree Centigrade

### 2.2. Blank holding Mechanism features

Holding force range	2600N or higher
Hold down location	All 4 sides of the blank at periphery
Holding variability	Flexible to arrest or relax holding force
Blank holding mechanism	Pneumatic or mechanical clamps
Ambient Temperature	40 Degree Centigrade

## 3. Installation

- 1) The fixture should floor mounted by chemical grouting method.
- 2) The vendor should make sure the fixture is in accurate position with respect to the robots on either side.

## 4.0. General Instructions

1. Quotation should contain item wise price for each item of our enquiry. (Detailed cost breakup of each item viz. Equipment cost, conversion cost, testing cost, any other charges wherever applicable).
2. The quotations should be valid for a period of 90 days from the due date.
3. Other applicable levies if any to be specified separately like, insurance, transportation, packaging & forwarding etc. for the total supply.
4. Suppliers shall enclose the complete product sheet of the equipment, including the technical drawing and details of the design.
6. Offer received shall confirm the compliance to our technical requirement
7. All the suppliers should prove the technical compliance features before the purchaser.

8. The supplier shall indicate time required for procurement, delivery period and other duration like time required for installation very clearly.
9. Detailed breakup of overall cost should be clearly specified. Overall cost will be compared and should include packaging, forwarding and safe delivery to IITM.
10. A detailed compliance statement needs to be provided by vendors clearly specifying COMPLY/NON COMPLY with remarks of all of the points mentioned in this technical specification document.
11. IIT Madras is exempted from payment of import IGST and is eligible for concessional rate of customs duty. Necessary certificates will be issued accordingly at the time of clearance
12. A minimum of 12 months warranty period should be given from the date of installation.