

त्वरित डाक  
SPEED POST

SPEED POST



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**SARDAR VALLABHBHAI NATIONAL  
INSTITUTE OF TECHNOLOGY, SURAT-395 007**

No. DoME/RDS-NAB/SERB/ <sup>3845/2539</sup> /24-25

Date: 13/01/2025

To,

As Per Attached Sheet

16 JAN 2025

**SUB: - Enquiry for Fabrication of Combustion Chamber with Flow Visualization Facility**

Dear Sir,

You are requested to quote your prices for supply of stores listed overleaf. The quotations may be sent to the undersigned in a sealed envelope and subscribed as: "Quotation with reference to Enquiry No. DoME/RDS-NAB/SERB/ <sup>3845/2539</sup> /24-25 dtd: 13/01/2025". Your quotation should reach the undersigned on or before **30/01/2025 at 5:00 pm.**

The quotations should be furnished with the following information.

- 1) The brand or make of each item should be specifically stated and wherever necessary, complete set of specifications and dimensions should be given.
- 2) If asked, samples are accompanying with the quotations.
- 3) Goods and Services Tax (GST), Sales tax, General tax, Central Sales tax, Custom duty, Insurance charges, Packing and Forwarding charges, if not included in the prices quoted, should be clearly specified.
- 4) The period of validity of the quotation should be at least 45 Days. Offers subject to prior sale may please be avoided.
- 5) The delivery period is to be clearly mentioned in the quotation.
- 6) The mode of delivery of the stores may be mentioned. The delivery should be F.O.R. Surat or at the Institute.
- 7) All concessions available to an educational institution should be specified and also taken into account while quoting.
- 8) This Institute is located within the limits of S.M.C. & exempted from the paying of octroi duty on incoming goods from outside limits of S.M.C.
- 9) This Institute is registered with the dept. of scientific & industrial Research (DSIR) for the purpose of availing custom duty exemption, central excise duty exemption and concessional GST (if applicable) and hence the certificate to this effect will be issued wherever it is necessary on demand.
- 10) Payment is normally made by cheque drawn on the S.V.N.I.T. Branch Office of State Bank of India, Surat-395007 within a period of thirty days from the date of receipt of stores.
- 11) Your specifications & terms- conditions should be as per the format attached, must be on your company letterhead & signed by an authorized person.
- 12) Offered quotation may be rejected if any ambiguity is found in offered specifications, terms & conditions supplied by party in specified tabular format.
- 13) The Director reserves the right to accept stores, which are not strictly in confirming with the specifications but otherwise, found suitable.

**Kind Attn: Dr. R. D. Shah**  
PI & Asso. Prof., DoME

Yours faithfully,

*[Signature]*  
15/01/25  
for  
*[Signature]*  
13/1/25  
Head, Dept. of Mech. Engg.



## Specifications & Requirements

Sr. No.	Description	Qty.
1	Fabrication of Combustion Chamber with Flow Visualization Facility	01 Set

### Details Specifications

The entire Combustor Chamber Unit consists of following parts along with their details:

**(1) Main Combustion Chamber:**

Stainless steel combustion chamber with openable quartz window on both sides. Steel plate thickness has to be designed for higher temperature, pressure and vibration conditions. There should be a provision to change the quartz plates. Quartz plates shall be attached to combustor with the help of frame and Allen bolts to clean the combustor and replace the quartz plates. These ducts have to be leak-proof, and the standard clearance for the gaskets must be provided.

The top and bottom windows must be provided with the opening of 2-3 made-up of quartz for the laser sheet. The laser sheet windows must be leak proof with proper gasket clearance.

Combustion chamber dimensions: Cross section area Approx. = 60-80 X 60-80 mm<sup>2</sup> Length: 370 mm, Standard flanges on both the sides of the combustor must be provided and welded.

**(2) Inlet Ducts**

It must have the standard size honey comb (flow straighteners). These are intermediate ducts between settling chamber and combustion chambers 100 mm made up of steel and 150 mm made up of mild steel.

**Inlet duct dimensions:** Cross-section area = 60-80 X 60-80 mm<sup>2</sup>, Length: 300 mm, Standard flanges on both the sides of the inlet ducts must be provided.

**(3) Extension Ducts**

These are tail ducts down stream of combustion chambers of total length 150 mm made-up of steel and 150 mm made-up of mild steel.

**Extension duct dimensions:** Cross section area = 60-80 X 60-80 mm<sup>2</sup>, Length: 1330 mm, one 380 mm long duct, four 150 mm long duct, and two 200 mm long ducts. Standard flanges on both the sides of the extension ducts must be provided. Material is MS.

**(4) Air-Line - Settling Chamber**

Airline consists of MS settling chamber The cone gradually diverges with a half cone angle of 30° providing smooth expansion to the flow. The cone diverges from the diameter of 60 mm to 280 mm over the length of 250 mm. The length of the cylinder is 450 mm.

**(5) Fuel Line – Fuel Inlets, Fuel Line Holder, Fuel Line Support Plates**

Fuel line consists of y-joint connector (BSP), SS pipe of around 1.7 meters in length and fuel injector disc. Fuel injector is fastened with proper standard internal and external threads the fuel pipe and has sixteen equally spaced 1.5 mm diameter holes. The diameter of fuel injector is 40 mm, and the width is 20 mm. Fuel pipe support plate having four zero degree Swirlers acting as sudden expansion to the combustion chamber.

**(6) Sensor Mountings – Pressure Ports.**

Nine pressure taps of 2 mm diameter should be provided with a proper connector for measuring the pressure.

**Note: All surfaces are polished and painted (dusting resistance). All parts of the experimental setup must be easy to assemble and disassemble and must be provided with proper fasteners and gaskets.**

*R. S. S.*  
13/11/25