

**Centre for Energy Studies
Indian Institute of Technology
Hauz Khas, New Delhi-110 016**

NOTICE INVITING QUOTATIONS

Date: 05.01.2016
Due date: 20.01.2016

Subject: Purchase of Pressure Transducer for Internal Combustion Engines

Invitation for Tender Offers

Indian Institute of Technology Delhi invites sealed tender offers in two bid format (Technical bid and Commercial bid) from eligible and experienced OEM (Original Equipment Manufacturer) OR OEM Authorized Dealer for supply, installation & integration of '**Pressure Transducer for Internal Combustion Engines**' with one year on site comprehensive warranty from the date of receipt of the material as per terms & conditions specified in the tender document.

The quotation should reach to Dr. K. A. Subramanian, Associate Professor, Room No. 414, Block V, Centre for Energy Studies, IIT Delhi, Hauz Khas, New Delhi – 110016 latest by 5:30 P.M. on 20.01.2016.

TECHNICAL SPECIFICATION:

The item "**Pressure Transducer for Internal Combustion Engines**" will be fitted in the passes provided for glow plug mounted at engine cylinder head (detailed geometry of available space for fitting the pressure sensor with adaptor is given in Fig. 1.). The detailed specifications of each individual component of the item are given below.

Item name: Pressure Transducer for Internal Combustion Engines

Technical specification:

S.No	Parameter	Description
1.	Sensor Type	Piezoelectric Sensor adapted in Glow Plug adapter
2.	Dynamic Pressure Measuring Range	0 to 250 bar
3.	Overload	300 bar
4.	Sensitivity (nominal)	-17 to 16 pC/bar
5.	Linearity	$\leq \pm 0.3$ % FSO
6.	Cyclic temperature drift	$\leq \pm 0.5$ bar
7.	Thermal sensitivity	$\leq \pm 2$ % (20 ... 400 °C) $\leq \pm 0.5$ % (250 \pm 100 °C)
8.	Thermal Shock Error	$\leq \pm 0.3$ bar
9.	Operating Temperature	(-20 to 400 °C)
10.	Connector	Thread size M3 X 0.35
11.	Cooling Type	Air cooled
12.	Accessories	Mounting/Removal tools or any other accessories which are required for installation must be supplied by supplier.

Note:-

The pressure sensor should work on engine operating conditions like vibrations, temperature variation, shock, etc.

The item should be quoted as single item of “**Pressure Transducer for Internal Combustion Engines**”. It is desirable that each component shouldn’t be quoted separately.

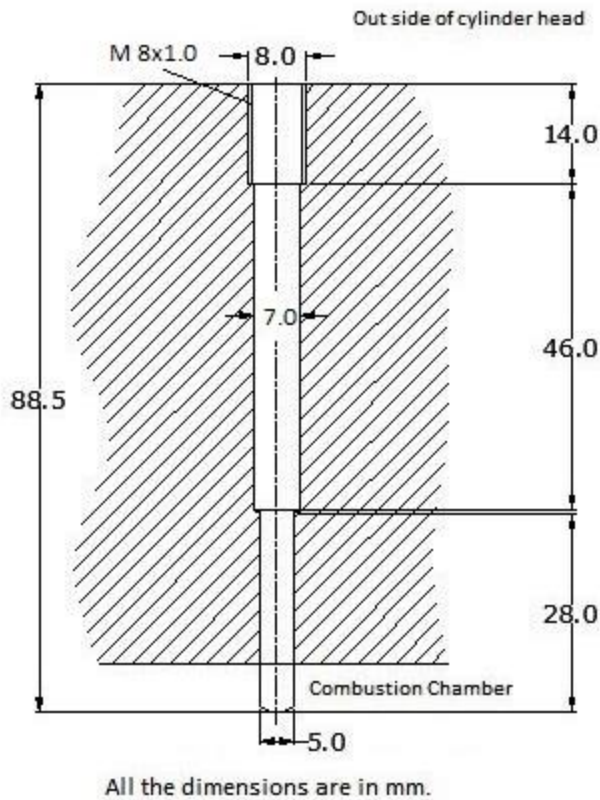


Fig.1. Internal geometry and specifications of the passes where adaptor fitted pressure sensor will be mounted on engine cylinder head.

Terms and conditions covering submission of quotations

1. Please submit the TECHNICAL and FINANCIAL bids in two separate sealed envelopes. Mark clearly as “Technical Bid” and “Financial Bid” on the respective envelopes. Both the sealed envelopes should be sent in a single sealed envelope, with clearly marked as Quotation for “**Pressure Transducer for Internal Combustion Engines**”. The quote should reach the following address on or before 20.01.2016 (**5:30 PM**).
Name: Dr. K. A. Subramanian
Address: Room No. 414, Block V, Centre for Energy Studies,
Indian Institute of Technology Delhi, Hauz Khas, New Delhi-110016
2. Please quote prices of imported items preferably at FOB (Freight on Board) IIT Delhi / CIP Delhi Airport inclusive of all taxes, freight, delivery, installation and onsite training charges. The quotation should provide the total price of the system including all taxes and transportation charges.
3. Quote should be in Indian Rupees / US Dollars / Euro and to be valid for at least three months.
4. Attach all the technical literature and a list of similar installations done in India. Please provide certificate of installation / purchase order from two reputed OEMs.

5. If the quote is being submitted by the representative of the principals/manufactures themselves, a valid Agency ship/Dealership Certificate authorizing the agent to quote to IIT Delhi on behalf of the Principals should be enclosed.
6. Complete set of manuals for the operation and servicing of equipment should be given. All circuit diagrams, other mechanical and electrical schematics must be provided to main unit, sub systems and accessories.
7. Spare set: A complete set of necessary spares and consumables should be supplied for at least one year of trouble free operation.
8. Clearly specify the installation requirement such as space, power, frequency, environment (Temperature and humidity), etc.
9. If the items quoted are proprietary in nature, please enclose proprietary certificate from the principals stating “certified that _____ is a proprietary item of M/s. _____ and no other manufacture make these items”.
10. If the bidder is Indian agent, the agency certificate should be enclosed.
11. Please produce compliance certificate for the specification.
12. Delivery period: Within 1 month from the issue of supply order.
13. Authority of IIT Delhi reserves the right to reject any or all quotations without assigning any reasons.
14. Validity of quotations: Quotations will be considered valid for 3 months from the date of receipt unless otherwise stated.
15. Correspondence: No correspondence regarding acceptance or rejection of a quotation will be entertained.
16. Samples: Samples when asked for will invariably be made available and sent along with the quotations.
17. Method of submission: Quotations should be sent in a sealed cover, indicating of OUR N.I.Q. REFERENCE NUMBER AND DUE DATE FOR OPENING as otherwise these will not be considered.
The envelope must contain two SEPARATE bids:
 - (i) Commercial bid
 - (ii) Technical bid
18. Rejection: The quotation not conforming to the set procedures mentioned above will be rejected.
19. Discount/Rebates: Special discount/rebate wherever admissible keeping in view that the items are being supplied to an Educational Institution of National importance may be indicated.
20. Excise duty (ED) exemption certificate will be provided by IIT Delhi.

(Dr. Vamsi K Komarala)
Chairman

(Dr. Ashu Verma)
Member

(Prof. M.G.Dastidar)
Member

(Dr. K.A. Subramanian)
Member