



College of Engineering, Pune - 411 005

Quotation for supply of

Laboratory Equipment of Mechanical Engineering

Ref: COEP/Mech/FM Lab Equipment/2017/ 796

Date: 04/12/ 2017

Cost of Quotation: Nil

MECHANICAL ENGINEERING DEPARTMENT
COLLEGE OF ENGINEERING, PUNE
 SHIVAJINAGAR, PUNE-411005

Ph: 020-25507221

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Tender No: COEP/MED/lab equipment/FM/2017/796

Date: 04/12/2017

Last date: 14/12/2017 on/before 04:00 PM

Subject: Invitation of sealed quotation are invited for purchase of fluid machinery laboratory equipment.

College of Engineering Pune invites sealed quotation for purchase of fluid machinery laboratory equipment. Please refer table for list of equipment, their specifications and terms and conditions.

Sr. No.	Name of the equipment	Detailed specifications as per	The matter to be written on the envelope of the quotation
1	Gear pump test rig	Annexure I	Quotation for equipment Fluid Machinery Lab

Terms and Conditions:

1. Quotations through Fax and Email are not acceptable.
2. Submit quotation in a sealed envelope and mention the name of the equipment for which the quotation is submitted.
3. Quotations should be valid for 30 days from the tender due date. The quotation should clearly indicate the period of delivery, warranty terms etc.
5. All duties, taxes and other levies payable by the bidder needs to be included in the total price, and break up needs to be indicated.
6. Quotations received after the due date and time will be rejected.
7. Further details of this quotation and the relevant information are available in the office of Mechanical Engineering Department, College of Engineering Pune. For any query please contact, Prof. M. P. Khond 9423023902/ N D Shikalgar 9823286386
8. Delivery: The Equipment should be supplied, installed and commissioned "FOR" College of Engineering Pune within the period of 8 weeks from the date of issue of purchase order.
9. Penalty: If the suppliers fails to deliver and place any or all the Equipment or perform the service by the specified date, penalty at the rate of 1% per week of the total order value subject to the maximum of 10% of total order value will be Charged and deducted from the payables.

sd/-

Head, Mechanical Engineering Department
 College of Engineering Pune

Annexure I

GEAR OIL PUMP VARIABLE SPEED TEST RIG

Technical Details :-

Sr. No.	Element	Specification
1.	External Single gear Pump	Make :Eaton Model/ Series -GD 5 Speed 50-4000 RPM Make - Eaton Max. Flow rate: 8 LPM (approx) Max. Head: 200 kg/cm ²
2.	Medium Flow - Oil	Oil: SAE 20W 40
3.	Drive	2 HP motor Single phase (vary speed of the motor without stopping the motor)
4.	Power Measurement	By load cell and digital indicator to measure torque applied by the motor
5.	Sump Tank	Capacity 40- 50 Ltrs.
6.	Stop Watch	Electronic
7.	Pressure Gauge	Using glycerin filled pressure gauge at suction and discharge of the pump. Gauges should be mounted on control panel. Pressure range should be suitable for the operating range of the test rig.
8.	Vacuum Gauge	Bourdon type (-1 to 16 bar)
9.	Energy measurement	Electronic Energy meter, Make- (SELEC -EM 368)
10.	Flow measurement	Rotameter 0-10 LPM and Measuring tank
11.	Speed Measurement	Non-contact type sensor with panel mounted seven segment LED indicator.
12.	Measuring Tank	Made of transparent Acrylic/Plastic. Capacity 8 lit. Overflow inhibitor to be built-in the level tank.
13.	Standard make On/Off Switch	Mains Indicator, etc
14.	Heat exchanger	A forced air cooled heat exchanger should be supplied in the return line. This should be designed to for delta T (oil) of 20 deg C at 10 lpm flow rate.
15.	Pressure relief valve	2 nos of appropriate size
16.	Piping and Fittings	Suitable size piping & Fittings: Seamless pipes suitable to the pump size should be supplied. All the fittings should be ferule type hydraulic fitting to withstand operating pressure of the test rig, providing for an adequate safety factor.

- Tanks will be made of Stainless Steel.
- Electricity supply: Single phase, 220V AC, 50 Hz, 5-15 amp combined socket with earth connection.
- An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus
- The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint.
- The experimental Setup should be supplied with Oil.

Experimentation :-

1. To determine total head, pump output, overall efficiency and pump efficiency.
2. To plot Graph:
 - Head Vs Discharge
 - Pump efficiency Vs Discharge.

sd/-

Head, Mechanical Engineering Department
College of Engineering Pune