



SPEED POST

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

No. DoME/Seed Money/ KAS./

1985/2024-25 / 1527

Date: 29/08/2024

To,
Institute Website

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29 AUG 2024

SUB: - Enquiry for Biodiesel reactor with instrumentation.

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/Seed Money/KAS 1985/2024-25 dtd 29/08/2024. Your quotation should reach the undersigned on or before **13/09/2024 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 accompany the quotations
- 3) 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 60 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 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.

Yours faithfully,

Shambhu
29/8/24

Bm

Head, Mech. Engg. Dept

Specification

Sr. No.	Item Name
1.	<p>BIODIESEL REACTOR WITH INSTRUMENTATION (Type: Hydrodynamic Cavitation Reactor as shown in Fig 1)</p> <p><u>Learning Objectives/ Experiments:</u></p> <ul style="list-style-type: none"> • Formation of cavitations. • Observation of cavitation effect. • Demonstration of effects of different flow rate/ pressures on the biodiesel production. • Comparison of experimental and theoretical analysis of bio-diesel production through cavitation. • Determination of Cavitation number. • How vertical and horizontal cavitation affects the process. <p><u>Specification/ Technical data:</u></p> <ol style="list-style-type: none"> 1. Reactor Tank <ul style="list-style-type: none"> ➤ Capacity: 15L ➤ Made of Stainless steel 2. Stand alone test rig with control panel mounted on the main frame. 3. Pump <ul style="list-style-type: none"> ➤ Type: Centrifugal ➤ Power Consumption: 3 HP 4. The apparatus consists of the orifice sections <ul style="list-style-type: none"> ➤ 1 horizontal orifice ➤ 2 vertical orifices 5. Orifice plates are easy to change with the help of quick couplings 6. Pressure and Temperature measurement at inlet and outlet of each orifice. 7. Stainless steel pipe <ul style="list-style-type: none"> ➤ Length: min 6 meters ➤ Inner diameter: 20 mm ➤ Thickness: 2 mm 8. SS Ball valves to control the path and flow of the fluid. 9. Pressure gauges: <ul style="list-style-type: none"> ➤ Upstream pressure gauges: 0 to 10 bar ➤ Downstream vacuum gauges: -1 to 0 bars 10. Heater to apply heat load on the fluid under test. 11. SS orifice plates of 2 mm thickness of 40 mm diameter having <ul style="list-style-type: none"> ➤ 9 holes of 2 mm diameter ➤ 41 holes of 1 mm diameter ➤ 33 holes of 1 mm diameter ➤ 17 holes of 2 mm diameter ➤ 17 holes of 3 mm diameter 12. Insulation of minimum 5 mm thickness 13. Rotameter with flow rate 0-5000 LPH 14. Energy meter <ul style="list-style-type: none"> ➤ Voltage: up to 440V AC ➤ Current: 100A 15. Temperature Indicator <ul style="list-style-type: none"> ➤ Channel – 8 Channels ➤ Sensor – K Type ➤ Range – 0-200°C

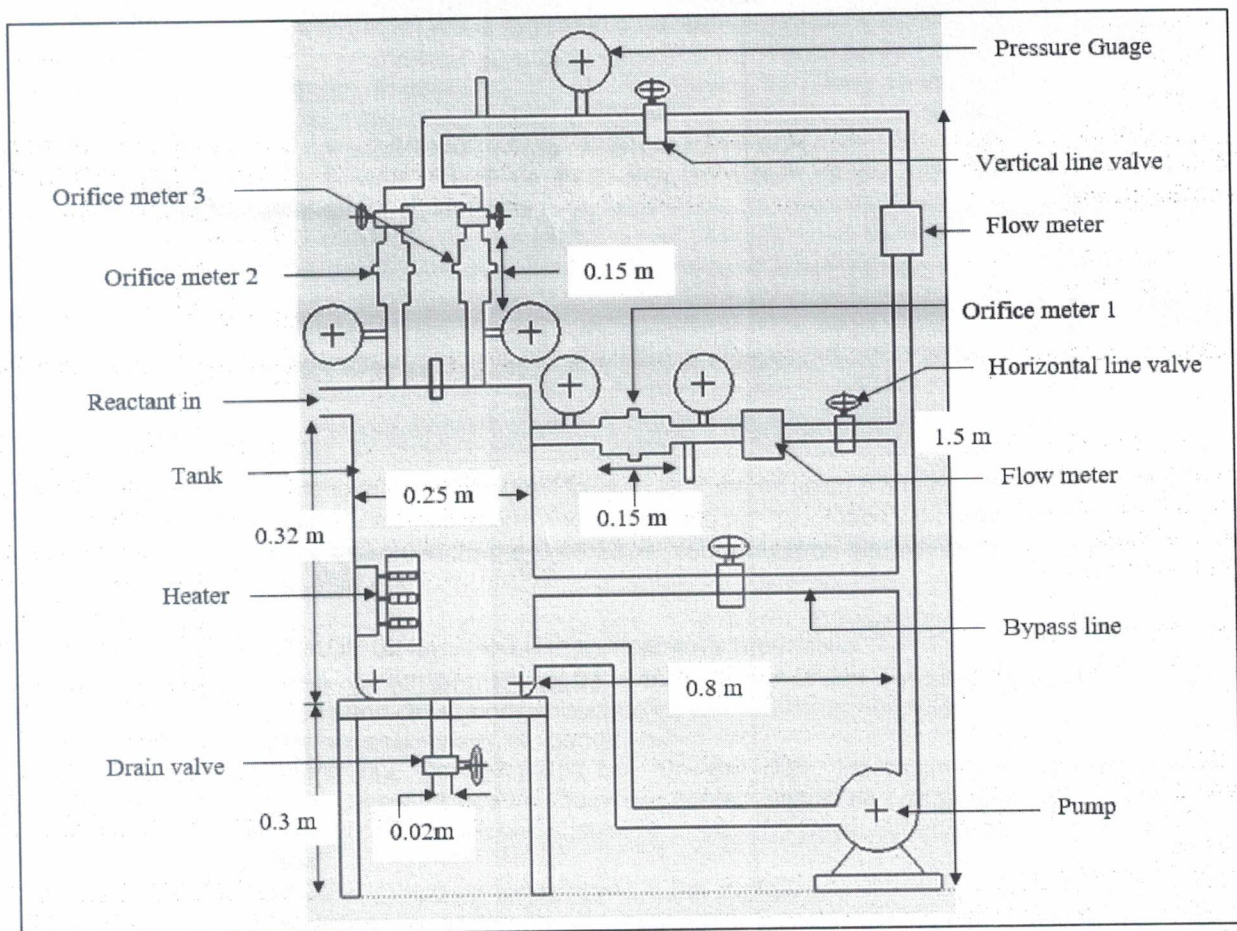


Fig 1: Schematic Diagram of Hydrodynamic Cavitation Reactor