

ત્વગીન ડાક
SPEED POST

SPEED POST



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Grams :

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

No. DoME/Renewable Energy Lab/ 225/187/2025-26

Date: 19/11/2025

To,

19 NOV 2025

Institute Website

SUB: - Enquiry regarding Digital Bomb Calorimeter (Fully Automatic Type)

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/Renewable energy Lab/ 225/187/2025-26 dtd 19/11/2025. Your quotation should reach the undersigned on or before **08/12/2025 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 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 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 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,

Head, Mech. Engg. Dept

18.11.2025

Specification

Sr. No.	Item Name														
1.	<p>Digital Bomb Calorimeter (Fully Automatic Type):</p> <p>For CV Determination of Any Solid or Liquid.</p> <p>Technical Specification:</p> <table border="1" data-bbox="355 338 1359 1608"> <thead> <tr> <th data-bbox="355 338 703 394">Type</th><th data-bbox="703 338 1359 394">Fully Automatic</th></tr> </thead> <tbody> <tr> <td data-bbox="355 394 703 869">FEATURES</td><td data-bbox="703 394 1359 869"> <ul style="list-style-type: none"> • Single Unit. No assembly required. • Color Display with PLC Touch screen with 400 Data Storage Memory. • Sample Preparation Manual. • Oxygen Filling Automatic. • Temp Rise Detection Automatic. • Calculation Automatic. • Printer & Reporting: YES. • Standardization Automatic with 10 result Memory. • Reporting Units Cal/gm, BTU/Lb , Kcal/Kg , or selectable. • Should Give the Final Report where you add Ash content, Moisture, Sulphur content, Etc. </td></tr> <tr> <td data-bbox="355 869 703 958">TEST METHOD</td><td data-bbox="703 869 1359 958">Determines the „Gross Calorific Value of any solid or liquid sample by determining the water equivalent by burning 1 gm of Known CV sample.</td></tr> <tr> <td data-bbox="355 958 703 1025">TEMP RANGE/ RESOLUTION</td><td data-bbox="703 958 1359 1025">Temperature Range 15°C to 35°C, Temperature resolution +/- 0.0001°C.</td></tr> <tr> <td data-bbox="355 1025 703 1059">METHOD</td><td data-bbox="703 1025 1359 1059">ISOTHERMAL</td></tr> <tr> <td data-bbox="355 1059 703 1216">STANDARD</td><td data-bbox="703 1059 1359 1216">Confirm to the specification ASTM D 4809(COAL, COKE), D 240(LIQUID HYDROCARBON), ASTM D 5865(LDO/FO) , D E711 , IS -1350- 1966, BS 1016 PART 5-1967 , IP 12/63 T.</td></tr> <tr> <td data-bbox="355 1216 703 1608">CONSTRUCTION STANDARD MODEL</td><td data-bbox="703 1216 1359 1608"> <ul style="list-style-type: none"> • Double walled, gap between walls filled with PUF Insulation. Inner Body made of SS 304 Mirror Finished, Outside GI Duly Powder coated. • Inner Jacket Wrapped with high insulation cloth to minimize the Heat correction factor to boost the accuracy. • Bomb bucket is made of copper with Plating as per ASTM Standard to get the best of accuracy. • Bomb Support to Ensure Correct Positioning of Bomb in Bucket. </td></tr> </tbody> </table>	Type	Fully Automatic	FEATURES	<ul style="list-style-type: none"> • Single Unit. No assembly required. • Color Display with PLC Touch screen with 400 Data Storage Memory. • Sample Preparation Manual. • Oxygen Filling Automatic. • Temp Rise Detection Automatic. • Calculation Automatic. • Printer & Reporting: YES. • Standardization Automatic with 10 result Memory. • Reporting Units Cal/gm, BTU/Lb , Kcal/Kg , or selectable. • Should Give the Final Report where you add Ash content, Moisture, Sulphur content, Etc. 	TEST METHOD	Determines the „Gross Calorific Value of any solid or liquid sample by determining the water equivalent by burning 1 gm of Known CV sample.	TEMP RANGE/ RESOLUTION	Temperature Range 15°C to 35°C, Temperature resolution +/- 0.0001°C.	METHOD	ISOTHERMAL	STANDARD	Confirm to the specification ASTM D 4809(COAL, COKE), D 240(LIQUID HYDROCARBON), ASTM D 5865(LDO/FO) , D E711 , IS -1350- 1966, BS 1016 PART 5-1967 , IP 12/63 T.	CONSTRUCTION STANDARD MODEL	<ul style="list-style-type: none"> • Double walled, gap between walls filled with PUF Insulation. Inner Body made of SS 304 Mirror Finished, Outside GI Duly Powder coated. • Inner Jacket Wrapped with high insulation cloth to minimize the Heat correction factor to boost the accuracy. • Bomb bucket is made of copper with Plating as per ASTM Standard to get the best of accuracy. • Bomb Support to Ensure Correct Positioning of Bomb in Bucket.
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	SS BOMB	<ul style="list-style-type: none"> • Made of SS 316 • Tested hydraulically for pressure up to 300 Kg/Cm² • Easy to Handle & Operate • Easy Maintenance. Only Periodically O ring (Usually after 500 Test) or Valves (Usually around 1000 Test) need to be changed. • Control panel is provided with Fuse protection in case of electrode short or Electrode with body short. • Should be provided with O ring set Schrader Valve & Fuse set one extra as spares.
	OXYGEN FILLING	<ul style="list-style-type: none"> • Oxygen Filling Will be in Auto. • It should be Inbuilt
	TEMP. RISE DETECTION	<ul style="list-style-type: none"> • Temp. Rise Detection Automatic. • Stirrer Start Auto. • Firing Auto • Stabilization mode : Auto • It should be observable Time Vs Temp Reading on Monitor Screen.
	CALCULATION & REPORTING	<ul style="list-style-type: none"> • Calculation Automatic. • For CV Determination. • It also has all the interlock inbuilt.
	CV DETERMINATION RANGE & ACCURACY	<ul style="list-style-type: none"> • CV Range 1000 to 20000 Cal /gm. • RSD +/- 1.0%. • WE CAN DETERMINE CV OF LOW ENERGY FUEL UPTO 500 CAL/GM
	EXPERIMENT DURATION	<ul style="list-style-type: none"> • 10 – 15 Minutes
	SOFTWARE	<ul style="list-style-type: none"> • Web based Utility software with Live screen for Temp Monitoring Graph and Pop up on PC regarding Start of Test, Mode of the Test, Result of the test. • It should have User password login with multiple user level Access. • It can print the data on Attractive Report format with Company Logo and detail. • Filter the data on Sample Name wise, Operator Name wise, Supplier Name wise, Date & Time wise & Batch Wise.

CONTROL PANEL	<ul style="list-style-type: none"> • PLC Touch Screen Color Display. • IP 22 Protections. • CV Determination Test, Standardization Test Manual Test, Instrument Test, Oxygen Filling Test and Should be provided with 400 Data History. • Select Reporting Units. • Mains Fuse for Load Protection. • Igniter Fuse For Electrode short circuit protection. • Interlock for Ignition wire wrong connection. • Interlock for stirrer connection cable if loosen. • 12V DC power Supply to Ignition Circuit. • LED to show standby Status, Program running status, Program Over status.
HEATING LOAD	<ul style="list-style-type: none"> • Max Up to 1 KW.
POWER SUPPLY	<ul style="list-style-type: none"> • 230 V Ac , 5 Amp , 50/60 Hz Power Supply
Warranty Required	<ul style="list-style-type: none"> • 3 Years
ACCESSORIES TO BE SUPPLIED ALONG WITH INSTRUMENTS	<ul style="list-style-type: none"> • S.S. Bomb • Main Unit. • Connecting Tubes (4mm High Pressure tube with Swag Lock) for filling Oxygen in the Bomb • Spanner for Oxygen valve & copper tube Connection. • Oxygen Control Valve, Pellet Press. • Connecting Wire • Hook for Lifting Bomb. • Crucible. [Stainless Steel] • Cotton Reel 01 NO. • Bomb O' Ring : 01 No. • Valve Body O' Ring: 01 No. • Ignition Wire: 100 Meters. • Schrader Valve: 01 Nos. • Bursting Discs for Safety Device 12 Nos. : 1 set. • Benzoic Acid 100 Tablets of 1 Gm of Known CV { 6319 Cal / gram +/- 20 Cal/gm} • Valve Key. • Operating manual.

	<p>DOCUMENTS SUPPLIED ALONG WITH THE INSTRUMENTS.</p>	<ul style="list-style-type: none"> • IQ,OQ,PQ OF COMPLETE APPARATUS • INSTRUCTION MANUAL • HMI SOP • SS BOMB PRESSURE TEST CERTIFICATE. • HMI TEMPERATURE INDICATOR CERTIFICATE. • PRESSURE GAUGE TEST CERTIFICATE. • SS BOMB MATERIAL TEST CERTIFICATE. • BENZOIC ACID CV STANDARD TEST CERTIFICATE. • HYDRAULIC PRESSURE TEST CERTIFICATE. • ASTM METHOD COMPLIANCE CERTIFICATE. • HIGH PRESSURE NYLON TUBING PRESSURE WITH STANDING TEST CERTIFICATE.
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