

Minutes of Pre-Bid Conference (PBC) held on 22-08-2024 for proposed procurement of "Supply, installation and commissioning of "AUTOMATIC METHANE POTENTIAL TESTING SYSTEM"

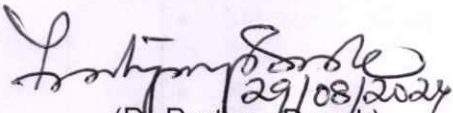
Chairpersons / Members of the Technical Sub Committee (TSC) present during PBC including domain experts present during PBC:-

1. Dr. N.Lingaiah, Chairman
2. Dr.PratyayBasak, Member
3. Dr.G.Jithender Reddy, Member
4. Sri. D. Venkateswara Rao, Member
5. Dr.SreepriyaVedantam, Member
6. IO Dr. Sameena Begum

Representatives of the following firm attended the PBC:

1. No firm has reported for PBC meeting.
2. However, on the same day subsequently, queries were received from M/s Arka BRENStech Pvt. Ltd through email dated 22/08/2024 and CSIR-IICT's response to the queries are attached as Annexure – A.

All bidders are requested kindly to take a note of the changes, if any, in tendered specifications subsequent to **PBC** held today, i.e. 22-08-2024 before they start submitting their online bids through CPPP.

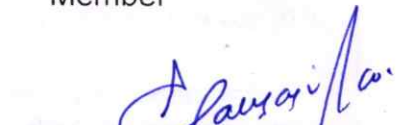

(Dr. Pratyay Basak)
Member

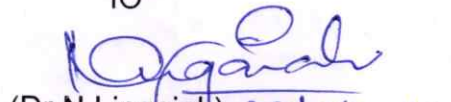

(Dr. Jithender Reddy)
Member


(Dr. Sreepriya Vedantam)
Member


(Sri. D. Venkateswara Rao)
Member


(Dr. Dr. Sameena Begum)
IO

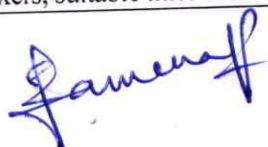

(Dr. A. Gangagni Rao)
JPL


(Dr. N. Lingaiah) 29/8/2024
Chairperson

CPPP Tender ID: 2024_CSIR_204819_1

The following changes has been made in the tendered specification subsequent to PBC held on 22.08.2024

S. No.	Existing Specifications	Revised/Amended Specifications
1	<p>Biomethane Potential Testing Machine – I (Batch)</p> <ul style="list-style-type: none"> • The machine should be capable of handling both organic solid and liquid wastes (food waste, lignocellulosic biomass, organic industrial effluents) for comprehensive biomethane potential testing. • The biomethane potential testing machine should be equipped with bioreactors with mixers, suitable inlet and outlet arrangement for feed in, gas collection port and digestate collection container. • MOC of reactors: HDPE/Glass/Stainless steel • Mode of operation: Batch • Feeding: Manual • No. of reactor in the set: 5 – 20 • Volume of Reactor: 1 - 2 L • Mechanical mixing between 50 – 250 RPM (Variable Speed) • Power supply: 220 VAC • Operational pressure: between 0.1 to 1 bar • Operational Temperature: between 20 °C to 75 °C with precision of ± 0.1 °C • Biogas measurement: Volumetric water displacement method with required tubing's • Measurement resolutions: 5 – 10 ml • HMI/PLC unit with software controlled automatic conversions and calculations <p>Biomethane Potential Testing Machine – II (Continuous)</p> <ul style="list-style-type: none"> • The machine should be capable of handling both organic solid and liquid wastes (food waste, lignocellulosic biomass, organic industrial effluents) for comprehensive biomethane potential testing. • The biomethane potential testing machine should be equipped with bioreactors with mixers, suitable inlet and outlet 	<p>Biomethane Potential Testing Machine – I (Batch)</p> <ul style="list-style-type: none"> • The machine should be capable of handling both organic solid and liquid wastes (food waste, lignocellulosic biomass, organic industrial effluents) for comprehensive biomethane potential testing. • The biomethane potential testing machine should be equipped with bioreactors with mixers, suitable inlet and outlet arrangement for feed in, gas collection port and digestate collection container. • MOC of reactors: HDPE/Glass/Stainless steel • Mode of operation: Batch • Feeding: Manual • No. of reactor in the set: 5 – 20 • Volume of Reactor: 1 - 2 L • Mechanical mixing between 50 – 250 RPM (Variable Speed) • Power supply: 220 VAC • Operational pressure: Between -50 to 50 mbar • Operational Temperature: between 20 °C to 60 °C with precision of ± 0.2 °C • Biogas measurement: Volumetric water displacement method with required tubing's • Measurement resolutions: 5 – 10 ml • HMI/PLC unit with software controlled automatic conversions and calculations <p>Biomethane Potential Testing Machine – II (Continuous)</p> <ul style="list-style-type: none"> • The machine should be capable of handling both organic solid and liquid wastes (food waste, lignocellulosic biomass, organic industrial effluents) for comprehensive biomethane potential testing. • The biomethane potential testing machine should be equipped with bioreactors with mixers, suitable inlet and outlet arrangement for feed in, gas collection port and digestate



arrangement for feed in, gas collection port and digestate collection container. The reactor should be equipped with temperature sensors

- Reactor Type: Continuous stirred tank reactors with continuous automatic feeding system, digestate collection and gas withdrawal mechanism
- MOC of reactors: Stainless steel
- Mode of operation: Continuous
- No. of reactor in the set: set of 4 or 6 or 8 reactors
- Volume of Reactor: 5 - 10 L
- Feeding: Automatic feeding with a feeder volume of 1 - 2 L
- Feed flow rate: 0.1 to 1 L/day
- Mechanical mixing between 50 - 250 RPM (Variable Speed)
- Power supply: 220 VAC
- Operational pressure: between 0.1 to 1 bar
- Operational Temperature: between 20 °C to 75 °C with precision of ± 0.1 °C
- Biogas measurement: Gas flowmeter with real-time monitoring system
- PLC unit with Software controlled automatic conversions and calculations

General Requirements:

- Installation to be done in CSIR-IICT followed by its demonstration to project staff
- Standard operating procedure manual
- Warranty on the item and supply of spares

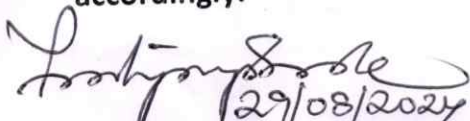
collection container. The reactor should be equipped with temperature sensors

- Reactor Type: Continuous stirred tank reactors with continuous automatic feeding system, digestate collection and gas withdrawal mechanism
- MOC of reactors: Stainless steel
- Mode of operation: Continuous
- No. of reactor in the set: set of 4 or 6 or 8 reactors
- Volume of Reactor: 5 - 10 L
- Feeding: Automatic feeding with a feeder volume of 1 - 2 L
- Feed flow rate: 0.1 to 1 L/day
- Mechanical mixing between 50 - 250 RPM (Variable Speed)
- Power supply: 220 VAC
- **Operational pressure: Between -50 to 50 mbar**
- **Operational Temperature: between 20 °C to 60 °C with precision of ± 0.2 °C**
- Biogas measurement: Gas flowmeter with real-time monitoring system
- PLC unit with Software controlled automatic conversions and calculations

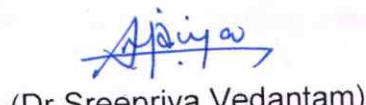
General Requirements:

- Installation to be done in CSIR-IICT followed by its demonstration to project staff
- Standard operating procedure manual
- **Comprehensive onsite warranty for 12 months on the item and supply of spares**

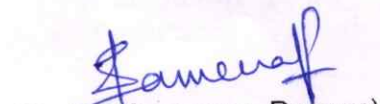
All the other tender terms remain unchanged. Bidders may please submit their bids accordingly.

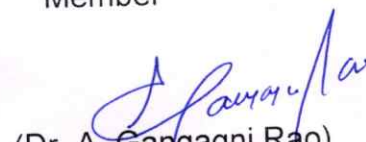

(Dr. Pratyay/Basak)
Member



(Dr. Jithender Reddy)
Member


(Dr. Sreepriya Vedantam)
Member


(Sri. D. Venkateswara Rao)
Member


(Dr. Sameena Begum)
IO


(Dr. A. Gangagni Rao)
PL


(Dr. N. Lingaiah)
Chairperson

Annexure – A

Inquiries received and responses for the TENDER No.-PUR/ICT/0756/24-25/EQPT Supply, Installation and commissioning of "Automatic Methane potential testing system (AMPTS) Batch and Continuous"

S. No	Observations	Queries received from the bidder	Response from CSIR-IICT
1.	<p>Warranty Page-60 4.3- Inspection and Testing 4.3.1 - General 1. Total Cost must include 24 months comprehensive onsite warranty (labor + parts, etc.) on the complete system.</p>	<p>At Page 62 4.4 Warranty - 12 months comprehensive onsite warranty from the date of successful installation and final acceptance of the supplied system by CSIR - IICT user.</p>	<p>Comprehensive onsite warranty for 12 months can be considered from the date of successful installation and final acceptance of the supplied system by CSIR - IICT user</p>
2.	<p>Technical Specifications Page 59 4.2- Scope of Supply and incidental work Detailed Technical Specifications Biomethane Potential Testing Machine - I (Batch)</p>	<p>The machines should be capable of handling both organic solid and liquid wastes (food waste, lignocellulosic biomass, organic industrial effluents) for comprehensive biomethane potential testing.</p>	<p>The biomethane potential testing machine should be equipped with bioreactors suitable inlet and outlet arrangement for feed in, gas collection</p>
		<p>Ok</p> <p>The biomethane potential testing machines should be equipped with bioreactors with speed mixers with</p>	<p>Each reactor in the equipment should have arrangement of sample ports to collect the samples for analysis, gas collection ports, mixer for</p>




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	<p>port and digestate collection container.</p>	<p>controller, suitable inlet arrangement for feed in, gas collection port and digestate collection container.</p>	<p>mixing the feed material at a set RPM.</p>
	<p>MOC of reactors: HDPE/Glass/ Stainless steel</p>	<p>Ok</p>	<p>-</p>
	<p>Mode of operation: Batch</p>	<p>Ok</p>	<p>-</p>
	<p>Feeding: Manual</p>	<p>Ok</p>	<p>-</p>
	<p>No. of reactor in the set: 5-20</p>	<p>No. of reactor in the set: 18 working (max).</p>	<p>Acceptable, as the number of reactors fall within the range given in the general specifications</p>
	<p>Volume of Reactor: 1-2L</p>	<p>Volume of Reactor: 0.5-1L (max)</p>	<p>Reactor volume with less than 1 L is not acceptable</p>
	<p>Mechanical mixing between 50-250 RPM (Variable Speed)</p>	<p>Mechanical mixing between 50-220 RPM (Max) (Variable Speed)</p>	<p>The RPM falls within the range specified in the general specifications and hence is acceptable</p>
	<p>Power supply: 220V AC</p>	<p>Power supply: 12V DC/1.0A with 100-240V AC</p>	<p>Acceptable, as the given range also meets the requirement of 220V AC</p>
	<p>Operational pressure: between 0.1 to 1 bar</p>	<p>Operational pressure: between n-50 - 50 mbar</p>	<p>Operational pressure between - 50 to 50 mbar is acceptable. The general specifications will be updated accordingly</p>
	<p>Operational Temperature: between 20°C to 75 °C with precision of ± 0.1 °C</p>	<p>Operational Temperature: Upto 60°C with precision of ± 0.2 °C</p>	<p>Variable temperature between 20 to 60°C is acceptable with a precision of 0.2°C</p>
	<p>Biogas measurement: Volumetric water</p>	<p>Ok</p>	<p>-</p>

		displacement method with required tubing's Measurement resolutions: 5-10ml HMI/PLC unit with software controlled automatic conversions and calculations	Measurement resolutions: 9ml	The measurement resolution is within the range specified in the general specifications
3. Technical Specifications	Page 59 4.2- Scope of Supply and incidental work Biomethane Potential Testing Machine – II (Continuous)	The machines should be capable of handling both organic solid and liquid wastes (food waste, lignocellulosic biomass, organic industrial effluents) for comprehensive biomethane potential testing. The biomethane potential testing machine should be equipped with bioreactors with mixers, suitable inlet and outlet arrangement for feed in, gas collection port and digestate collection container. The reactor should be equipped with temperature sensors. Reactor Type: Continuous stirred tank reactors with continuous automatic feeding system, digestate collection and gas withdrawal mechanism MOC of reactors: Stainless steel	Ok	-
		Mode of operation: Continuous No. of reactor in the set: set of 4 or 8 reactors	Ok	-
			Ok	-
		MOC of reactors: HDPE/Glass/Stainless steel		Stainless Steel only

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	Volume of Reactor: 5 - 10L	Volume of Reactor: upto 2L	Not acceptable as the volume required is between 5 to 10 L
	Feeding: Automatic feeding with a feeder volume of 1 - 2 L	Feeding: Manual	Not acceptable as automatic feeding with feeders is required
	Feed flowrate: 0.1 to 1 L/day	Feed flowrate: As per experiment required OLR	Not acceptable as the designed working flowrate is between 0.1 to 1 L/day
	Mechanical mixing between 50 - 250 RPM (Variable Speed)	Mechanical mixing between 50 - 220 RPM (Max) (Variable Speed)	The RPM is within the range specified in the general specifications
	Power supply: 220 VAC	Ok	-
	Operational pressure: between 0.1 to 1 bar	Operational pressure: between 0.5 - 50 mbar	Operational pressure between 50 to 50 mbar is acceptable. The general specifications will be updated accordingly
	Operational Temperature: between 20°C to 75 °C with precision of ± 0.1 °C	Operational Temperature: Upto 60°C with precision of ± 0.2°C	Variable temperature between 20 to 60°C is acceptable with a precision of 0.2°C
	Biogas measurement: Gas flowmeter with real-time monitoring system	Ok	-
	PLC unit with Software control and automatic conversions and calculations	Inbuilt software for automatic control.	Acceptable
4. Form-2	Page-74 Form-2	Required if the applicant falls in Class-II category of MII policy	Manufacturer's authorization form required
5. Form-7	Page-79 Form-7	Whether the Form 7 should be submitted with the tender	Yes

			documents along with technical proposal because it includes information about the product's price and discount."	

Fawcett

[Signature]