

### Portable Emission Analyzer for 2-wheeler applications

#### Important Note:

In order to qualify the Bidders have to meet both the technical Specifications in Table 1 and the Essential Supplier Qualifying Conditions in Table 2.

Both Tables 1 and 2 have to be filled and attached to the Bid along with needed documents

**Table 1 Technical Specifications of the Portable Emission Analyzer for 2-wheeler applications**

Specification to be met	Compliance (Yes/No) if "No" provide remarks
1. Must be portable with weight less than 7-8 kg and powered by regular wall socket outlet with regular mains supply.	
2. Must conform to ISO3930/OIML R99(2000) standards and supporting document should be provided along with the technical bid.	
3. Must be compatible with IC engines working with gasoline, CNG, LPG and biogas fuels.	
4. Must measure CO <sub>2</sub> , CO and HC using NDIR principle.	
5. Must measure O <sub>2</sub> and NO using electrochemical cell.	
6. Must display Air-fuel ratio and excess air ratio by carbon balance method or Brettshneider method.	
7. Must measure CO <sub>2</sub> in the range of 0 to 20 % (by volume) with repeatability of 0.3 % (by volume) or 2 % of measurement or better.	
8. Must measure CO in the range of 0 to 10 % (by volume) with repeatability of 0.01 % (by volume) or 2 % of measurement or better.	
9. Must measure HC in the range of 0 to 20,000 ppm (hexane equivalent, by volume) with repeatability of 5 ppm or 2 % of reading or better.	
10. Must measure NO in the range of 0 to 5000 ppm (by volume) with repeatability of 2 ppm (by volume) or 2 % of reading or better.	
11. Must measure O <sub>2</sub> in the range of 0 to 25 % (by volume) with repeatability of 0.5 % (by volume) or 2 % of measurement or better.	
12. Must have monitor to display all the measured emission values.	
13. Must have standard computer interfaces and must be capable of being connected to other standard automation systems.	
14. Must be able to be calibrated by the user using sampling gas that is supplied by the bidding company.	
15. The bidder must be able supply the calibration gas mixture for regular calibration of the analyser at additional cost.	
16. Must have response time for CO <sub>2</sub> , CO, O <sub>2</sub> and HC within 20 s.	
17. Must have response time for NO within 50 s.	
18. Must only have warm-up time of 10 minutes or shorter.	
19. Must have accuracy of 2 % of measurement or better.	

**Table 2 Essential Supplier Qualifying conditions**

Qualifying conditions without which the bids will not be considered	Compliance (Yes/No) if "No" provide remarks
<p>1. The bidder should have supplied at <b>least ten numbers</b> of the quoted product or equivalent in specifications or higher in specifications to <b>NATRIP testing centres</b> (National Automotive Testing and R&amp;D Infrastructure Project) and <b>Reputed 2-wheeler automotive OEMs</b> (Original Equipment Manufacturers) in the last five years. Out of the 10 at least 5 should have been supplied to NATRIP testing centres like ARAI (Automotive Research Association of India) or ICAT (International Centre for Automotive Technology) or GARC (Global Automotive Research Centre) or NATRAX (National Automotive Test Tracks) and at least 2 should have been supplied to 2-wheeler automotive OEMs for automotive applications with BS IV capability or higher. <u>Proof of supply by providing POs without indicating commercial terms has to be provided along with the bid.</u></p>	
<p>2. The supplier should be the sole representative of the manufacturer of the offered item in India. <u>Letter to be provided.</u></p>	
<p>3. The supplier should be able to offer complete after sales service support in Chennai with office in Chennai. <u>Letter to be provided.</u></p>	
<p>4. Warranty should be for three years. <u>Letter to be provided.</u></p>	
<p>5. Any other support systems that are needed for the functioning of the analyzer but do not form a part of the instrument should be specified in the technical bid.</p>	
<p>6. In-case of instrument damage during the warranty period, repair or replacement should be done such that it is functional again within 5 working days from the date of reporting the issue through e-mail/phone. <u>Letter to be provided.</u></p>	
<p>7. Standard consumables for 3 years are to be separately quoted.</p>	