


 EPD - BANGALORE	Purchase Specification For Digital Ultrasonic Flaw Detector Equipment	SPECIFICATION NO. EPD-WEX-UT/2014-15
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Sl No	Parameter	Requirement
1	Purpose	To detect any flaw in bonding area at interface between Silicone rubber and FRP Rod / FRP Tube in composite Insulators.
2	Scope of Supply	Complete equipment consisting Data display unit with proper stand , suitable probes, built-in battery, charges, Operation and maintenance, technical Manual etc.
3	Training	Two BHEL engineers are to be trained for acquaintance on operation and maintenance of the equipment during commissioning at BHEL-EPD.
4	Inspection	The equipment shall be offered for inspection before supply.
5	DATA acquisition System	Suitable DATA acquisition system and suitable software to be provided along with the equipment for local/remote monitoring using computer interface.
6	Any other information	Supplier can furnish any other additional information, considering the overall requirements
7	Technical Parameters	
7.1	The System should be portable (< 5kg) and have the user friendly menu driven calibration setup features, with suitable calibration block.	
7.2	The offer should include 2 Probes of 1/4" or 6mm dia and 2 probes 8mm dia suitable to detect the flaw in composite insulator interface between Silicone rubber and FRP tube and Rod.	
7.3	Gain should be of minimum 100 dB, with 1,2,5 and 10 dB increment.	
7.4	It should have the frequency band width of 0.3 to 15 MHz.	
7.5	PRF should be from 15 Hz to 1 kHz.	
7.6	Velocity Range 1000 m/s to 10000 m/s or better range	
7.7	Display modes: rectified and RF Modes are compulsory.	
7.8	Data Display : A-Scan, B Scan	
7.9	Capable of working in pulse Echo, dual and through transmission techniques.	
7.10	Both BNC & LEMO connectors shall be provided to the system.	
7.11	The system should have resolution of minimum 0.1mm	
7.12	It should have the Audio / visual Alarm for Gate settings (Norm of alarm should be minimum two) (Manual / Automatic)	
7.13	It should have the gates (Minimum of two gates) for amplitudes and thickness measurements independently.	
7.14	The system should have the memory for saving minimum of 1000 set-up files also provision to store data in removal type flash card.	
7.15	It should have the facility to transferring and printing the data through either USB or RS 232 port. And suitable software should be provided.	
7.16	It should have the digital filters with different ranges.	
7.17	The depth, size shall be displayed in digital values.	

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7.18	<i>It should have the measurement facility for amplitude, sound path and depth.</i>
7.19	<i>The testing range shall be minimum of 0 to 10mm with 0.1, 0.5 & 1mm increments and max of 0 to 5000mm with 1,5 & 10 mm increments.</i>
7.20	<i>The system should be able to inspect composite material by phase inversion technique to detect defects / poor bonding at the interfaces.</i>
7.21	<i>It should have the DACs.</i>
7.22	<i>The system should have DGS scales.</i>
7.23	<i>Correction for curved surfaces shall be provided.</i>
7.24	<i>The system should be able to work with an AC power supply of 200V – 240 Volts , 50 Hz.</i>
7.25	<i>The system shall have the built in charger for charging batteries as well as external charger. The full charged battery should work for at least 6 hours of operation.</i>
7.26	<i>The system should be capable of working upto 50°C.</i>
7.27	<i>Catalogues and brochures consisting complete description and operational details along with photographs of the machine should be submitted along with the offer.</i>
7.28	<i>Two sets of operating manual should be provided along with the supply.</i>
8	General terms
8.1	<i>If case of multiple options details, price should be mentioned separately in the offer.</i>
8.2	<i>Necessary spares to be provided for trouble free operation of the equipment for two years along with the system.</i>
8.3	<i>Optional features if any shall be quoted separately.</i>
8.4	<i>Special tools or accessories should be quoted separately.(optional)</i>
8.5	<i>Commissioning and Installation to be done free of cost.</i>
8.6	<i>Instruction Manual and Service manual should accompany the supply.</i>
8.7	<i>Minimum warranty for one year from the date of Commission to be provided.</i>
8.8	<i>Should have service centre in India.</i>
8.9	<i>Provide list of critical spare parts.</i>
8.10	<i>Language used in key Pad and display unit should be English.</i>
9	Qualification criterion
9.1	<i>The vendor shall be an Original Equipment Manufacturer (OEM). Dealers have to submit authorization certificate from OEM. Vendor need to provide Conformation.</i>
9.2	<i>The supplier should provide the list of Various organization (preferably in India) with their contact details, where the similar flaw detector equipment has been supplied (preferably for the same application). Also the supplied equipment should have worked satisfactorily during last 1 year in at least in two reputed organizations (enclose at least two performance certificates).</i>

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