

REVISED QRS/TDS OF BLASTING MACHINE/POGAL SET

S No	Parameters	Qualitative Requirements (QRs)	Trial Directives (TDs)
1.	General	The capacitor discharge blasting machine which should be 100% reliable in firing of electric detonators.	To be checked by BOO
2.	Design	<p>(a) Size of blasting machine should be compact and not weighing more than 350 gms includes battery.</p> <p>(b) Size of the machine should not exceed 10 cm x 5 cm x 20 cm</p> <p>(c) The machine enclosure should be fiberglass/nylon.</p> <p>(d) The machine should be water resistant and machine should have IP 66 rating.</p> <p>(e) It should must have weather proof carrying case and should come with attach the web belt for outdoor/long operation application should have IP 66 rating.</p>	<p>(a) OEM to furnish self-declaration certificate for the same.</p> <p>(b) Suitable National & International Lab accredited Cert to verify the IP Std needs to be produced by firm.</p>
3.	Firing Ability	<p>(a) The device should be able to provide a min of 10 J of firing energy at a min potential difference of 300 VDC tested through a min of 130 Ω</p> <p>(b) It should be able to fire atleast 65 Nos of No 33 electric detonator at a time.</p>	Physically checked by BOO. OEM to provide test certificate by National/ International accredited lab.
4.	Operability	<p>(a) A single unit should be able to check the following:-</p> <p>(i) Continuity of circuit.</p> <p>(ii) Resistance of circuit.</p> <p>(iii) Fire the charges.</p> <p>(b) It should be able to carry out an operational test using blasting machine tester/test set piece prior to brining the blasting machine into the blast area. During continuity test maximum current that can pass is 2mA. A 50 mA fuse is to be available in the testing circuit within the equipment.</p>	<p>To BOO to physically check the continuity of the circuits & resistance with detonators.</p> <p>The BOO to physically check the operational test of the machine with tester.</p>

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		<p>(c) It should be capable of firing using both series & parallel circuits.</p> <p>(d) It should have facility of separate LED lights for indicating the continuity of circuit and ready to fire indicator, when the capacitor reaches the design voltage. There should be low battery indicator also.</p> <p>(e) It should have separate switches for testing the continuity of circuit, priming of machine and firing of charges.</p>	Physically checked by BOO. OEM to furnish self-declaration certificate for the same.
5.	Battery	<p>(a) The blasting machine should require only one 9 volt Alkaline battery or equal and should be commercially available.</p> <p>(b) It should not take more than 8 seconds to prime with a new battery arrangement.</p> <p>(c) A standard, fresh alkaline battery should provide a minimum of 400 blasting cycles.</p>	Physically checked by BOO. OEM to furnish self-declaration certificate for the same.
6.	Safety	<p>(a) The device should have a built-in safety system that prevents the machine from firing in case the blasting circuit is broken or the desired voltage is not reached. It should have a built in demolition safety light to safely check the continuity of the initiators and the firing lines.</p> <p>(b) It should provide a self-test feature that eliminates costly testing equipment and time consuming inspection procedures.</p> <p>(c) It should be operated by magnetic switches which contain no mechanical parts thus eliminating the chance of any mechanical failure.</p> <p>(d) It should be able to function correctly in all weather conditions.</p>	<p>Physically checked by BOO. OEM to provide certificate by National/International accredited lab.</p> <p>Physically checked by BOO.</p> <p>Physically checked by BOO. OEM to furnish self-declaration certificate for the same.</p> <p>Physically checked by BOO.</p>

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7.	Display	The device should display digital resistance of the complete circuit and display the total number of detonators connected in the circuit.	Physically checked by BOO.
8.	Training	(a) OEM to provide operational trg to min 05 Bomb technicians/individual for a week.	OEM to furnish undertaking the same.
		(b) OEM to provide user level maintenance trg to 05 Bomb technicians/individual.	
9.	Manual	(a) OEM to provide user manual.	BOO to physically check the same.
		(b) OEM to provide maintenance manual.	