Technical Specification Compliance Matrix

Item: Compact Jet mill

Sl.No	Parameters		Specification / Functional requirements	Compliance by Party
1	**Milling unit**	**Type**	• Circular type; Shall have provision for compressed air/inert gas inlet and powder outlet • Party shall provide the dimension of the milling unit based on the feeding and output parameters	
		Mill liner	Shall be of sintered alumina (Al_2O_3) or tungsten carbide (WC) compatible with the feed materials used (ceramics, oxides, carbon composites)	
		Material of construction	Stainless steel (SS316 or corrosion resistant grades)	
		Mechanism of milling	Impact mechanism. (A high-speed jetting of compressed air or inert gas to collide the particles)	
2	**Material Feeder**	**Type**	Vibratory feeder/ hopper. The material is fed through a venturi funnel using a vacuum set up with a pusher nozzle at the mill inlet.	
		Powder feeder mechanism	• Should be an automatic powder feeder controlled by vibration frequency. • Rate of feeding should be controllable and party has to specify the mode of regulation.	
		Input particle size range	50 to 200 mesh (300 µm to 75 µm) or less size	
3	**Product collector**	**Particle collection mechanism**	Cyclone separator	
		Collection efficiency	> 85 % or better	
		Collection container	Collection container volume shall be of 500 and 1000 ml (glass or SS container). Two numbers of each containers shall be supplied with the along with instrument.	
		Powder Output capacity	• 50-500g/hr, adjustable as per the user's requirement • Lower output is intended for ceramic electrolytes and higher output is intended for cathode and anode materials	
		Output particle size range	• Tunable average particle size 2-20 µm • Particle size distribution report of any reference / standard sample shall be	

			submitted with input feed details for assessment. The same shall be submitted along with the tender; without which the offer will not be considered for further evaluation.	
4	**Compressor**	**Type**	• Dry air compressor • Input air should be moisture free. Intended RH for operation is ≤ 10%. Dew point: -15°C • Optional item; Party shall quote the suitable capacity air compressor separately.	
		Input air pressure	0.5 to 1 MPa air pressure, adjustable as per the user requirement. Controlling of feeding and crushing pressure option shall be provided.	
		Gas consumption rate	Party shall provide the details of gas consumption rate as m^3/ minute.	
5	**Air filter**	**Type**	• Shall be capable of filtering the fine particles 0.2-0.3 micron from the exiting air. • Filter should be detachable and shall have the provision for cleaning after a few operations.	
6	**Permissible sound level during operation**		≤ 70 dB	
7	**Equipment dimension**		Unit shall be table top Dimensions: 600 mm (L) x 400 mm (W) x 400mm (H); ±10% deviation of the dimension is acceptable	
8	**Electrical rating**		220-240 V AC, 60 Hz, 300-800W	
9	**Warranty & AMC**		• System shall be warranted for a minimum period of 2 year from the date of commissioning of the instrument at VSSC. • Party shall offer AMC (non-comprehensive) for five years after the warranty period and quote forthe same shall be submitted along with the price bid separately. 2 Number of PM visits and one breakdown visit if required shall be made in a year by the party during the AMC period. • Essential spares & consumables required for the trouble free operations of the instrument shall be supplied along with the equipment.	

		• Party has to separately provide quote for standard spares / consumables which need to be stock piled / being used for PM.	
10	**Pre-delivery inspection**	• Party has to arrange pre-delivery inspection of the instrument through either online or offline mode. • In case of online PDI, the entire operation to be conducted in video mode and recorded video has to be shared • Minor modifications, if any, proposed after the PDI shall be incorporated by the supplier based on our intimation. • Party shall provide videos of the milling trials done with the equipment prior to despatch of equipment from their site.	
11	**Installation and commissioning**	• Installation and commissioning of the instrument has to be carried out at our laboratory in VSSC and the performance has to be demonstrated. • Onsite training should be provided to VSSC personnel for operation, maintenance and troubleshooting.	