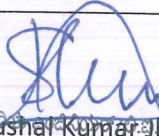


	PURCHASE SPECIFICATION FOR DRY CABINET	PS-263-201
		REV. 01

EQUIPMENT: DRY CABINET

REVISION HISTORY SHEET

REV NO	DATE	NATURE OF CHANGE	REASON	PREPARED BY	APPROVED BY
00	18/12/2020	New Issue	-	Kaushal Jha	Ripandeep Singh

Rev. 01	APPROVED		
	Ripandeep Singh		
	PREPARED	ISSUED	DATE
	 ಕೌಶಲ್ ಕುಮಾರ್ KAUSHAL KUMAR Jha	ENGG.	26/02/2021

ಕೌಶಲ್ ಕುಮಾರ್, ಸೀನಿಯರ್ ಇಂಜಿನಿಯರ್/ಲಿ-ಆನ್ ಸೆಲ್ ವಿನ್ಯಾಸ
 KAUSHAL KUMAR, SENIOR ENGINEER /Li-ion CELL MFG.
 BHEL-ESD, ELECTRONIC CITY, BENGALURU-560100

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EQUIPMENT: DRY CABINET

SCOPE

This document establishes the specifications for the supply and commissioning of Dry cabinet as per details below. It includes the hardware specifications & requirements, deliverables, documents and other general conditions. The equipment shall be commissioned at 1st floor, Old Production Block, BHEL, Electronics Systems Division, Electronic City, Bangalore.

PRE-QUALIFICATION CRITERIA FOR DRY CABINET

Pre-qualification criteria		
Sl. No	Description	Supplier's confirmation (Yes/No)
1	The vendor shall be an original equipment manufacturer (OEM) or a representative or a dealer of OEM. A latest valid authorization letter from OEM giving full contact details shall be furnished along with the offer (by dealer/representative)	
2	Vendor shall have an experience of designing/supplying similar testing systems to at least 2 or more customers as on date of tender opening. Details of customers to be furnished along with the offer. PO copies to be enclosed as a proof.	
3	Offer shall be for new equipment and not for any refurbished or used equipment. All the parts used in the equipment shall be new and not used / refurbished ones.	

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APPLICATION

Dry cabinets will be used for storage of Li-ion cell components which have already undergone the long/short cycles of wet/dry cleaning and Vacuumed/heated drying. Controlled ambience in dry cabinet ensures the cleanliness and readiness of the parts for usage without deviating the resources from mainline manufacturing operation.

TECHNICAL SPECIFICATION

Sl. No.	DESCRIPTION	TECHNICAL SPECIFICATION	Vendor's Remarks
1	Equipment design	It uses desiccant material to absorb moisture and control the moisture level inside the cabinet to required level.	
2	Minimum total storage capacity	700 liters	
3	Accessories	Height adjustable shelves/ Wheel set/ Safety locks/	
4	Cabinet construction	Suitable steel sheet (cold rolled/stainless steel) of Min 1 mm thickness with suitable stiffeners, Overall inside out ESD and anticorrosive coating, LED lights between shelves, tempered Glass doors, 1 Mega ohm moving wire	
5	Working environment	Equipment shall be suitable for operating inside class 10,000 clean room as well as regular working areas	
6	Footing/wheel	Teflon/Nylon heavy duty caster wheel/footing for easy movement/placement	
7	Type	Front Loading hinge type doors with inbuilt individual locks/handles, locks and key (set of three)	
8	Door sealing and locking	Suitable sealing and door locking provisions for maintaining required RH	

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9	Door type	Anti-Static Glass (Min. Thickness 3 mm) Doors with proper sealing	
10	Cabinet Color	Anti-Static Grey or any other to be specified	
11	Provision for adjustable gap between Shelves	Details of Slot pitch distance, type, Maximum Job Height	
12	Minimum load capacity per shelf (Kg)	25 kg or more	
13	Number of Shelves	4 or more	
14	Maximum weight of equipment (kg)	Vendor to specify	
15	Desiccating theory/operation	Desiccates with polymer physical adsorption/Silica based or better (vendor to furnish details)	
16	Humidity control range	1-10 % RH	
17	Humidity sensor	Should be of reputed make with a valid calibration procedure and report/Certificate	
20	Humidity and temperature display	Continuous display	
21	Maximum duration for which humidity can be maintained without opening /operating/Power supply for maintaining 1%, 5% and 10% RH shall be provided.	Vendor to provide details	
22	Humidity and temperature Control	Microprocessor controlled or better (vendor to be specify)	
23	Operation Continuity	In case of a power failure, there shall be a provision for auto-start and resuming operation in preset control parameters	
24	Input Power (AC)	BHEL shall provide 230V single phase, 50 Hz (+/-2.5%) power supply for the equipment.	

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25	Essential Documents	Operation and Maintenance Manuals including Trouble shooting manuals, spare part/bought out item details, wiring diagram, Calibration certificate & process for calibration	
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PRE-SHIPMENT INSPECTION (PSI):

BHEL shall carry out Pre-shipment inspection of equipment at Vendor's work. Vendor shall demonstrate proper functioning of system and also demonstrate equipment meeting all the specifications.

Rapid Dehumidification/ recovery time- Minimum time to achieve 1%, 5% and 10% RH conditions after door opening, followed by closing the same shall be provided by vendor. Demonstration of the same shall be done at supplier's work. Test certificates pertaining to the same shall be provided.

After satisfactory PSI, BHEL shall give a go-ahead for dispatch of equipment. Vendor has to inform at least 3 weeks in advance to BHEL for PSI, so that all necessary arrangements can be made.

INSTALLATION & COMMISSIONING/ TRAINING:

Vendor has to do installation of dry cabinet at BHEL-ESD, Electronic City Phase 1, Bangalore 560100. Vendor shall depute requisite manpower at BHEL premises to complete the installation of Dry cabinet. After completion of installation, the vendor shall demonstrate the performance of equipment to BHEL's satisfaction as per the specifications. Vendor shall arrange to train BHEL's personnel in operation of the Dry cabinet for required number of days at BHEL's premises at vendor's cost.

ACCEPTANCE CRITERIA

1. Performance Test certificates
2. Applicable calibration certificates

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WARRANTY

The vendor shall provide a warranty of the Dry cabinet for a period of 12 months from date of successful commissioning or 18 months from date of delivery at BHEL ESD whichever is earlier. The warranty shall cover all the spare and wear parts for the entire warranty period.

GENERAL

1. The Vendor shall enclose a point to point compliance / deviation matrix with respect to each of the specifications as mentioned above along with the offer without which the offer will not be considered.
2. Vendor to ensure suitable packing of the equipment.
3. Vendor shall provide general arrangement drawing of the equipment along with the item.

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