

Equipment Specification Data Sheet			
HLL Biotech Limited, Chennai			
nne pharmaplan®	REVIVAL OF DPT VACCINE MANUFACTURING FACILITY, PII,COONOOR		 HLL BIOTECH LIMITED <small>(Subsidiary of HLL Lifecare Limited) (A Government of India Enterprise)</small>
	Equipment Name	Garment Drying Machine	
	Project No	110831	
	Document No	DS-GDM 01	
1	Process requirements		
1.1	This equipment shall be used to dry the garments.		
2	Equipment ID	Minimum working Capacity (Kg) with 50% moisturized garment	Quantity (no's)
2.1	B1-GDM-01	15	1
2.2	B2-GDM-01	15	1
2.3	F1-GDM-01	15	1
2.4	M1-GDM-01	15	1
3	Technical Specification		
3.1	Model	cGMP (Industrial)	
3.2	Type	Single door, Front loading,	
3.3	Operating temperature	up to 100 Deg.C (settable)	
3.4	Heating type	Steam heating	
3.5	Inlet utility connection	Black steam @ 3.5 barg	
3.6	Airflow m3/hr	Vendor to specify	
3.7	Average drying time	Vendor to specify	
3.8	Door type	Hinged door	
3.9	IP Protection for motor	IP 54	
3.10	Electrical Requirement	To be compatibility to the standard Indian Power supply sockets	
3.11	Chamber dimention (W x D x H) mm	Vendor to specify	
3.12	External dimention (W x D x H) mm	Vendor to specify	
3.13	Number of Compartments	Vendor to specify	
3.14	Drum speed, RPM	Vendor to specify	
3.15	Max. spin speed, RPM	Vendor to specify	

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4	Material of Construction
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4.1	All contact parts with garments (Cabinets, inner drum, Jacket, tub, inlet and outlet connections, door frame etc.)	SS 304
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5	Specific Equipment requirement
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5.1	Machine should be provided with Micro processor based control system.
5.2	Electronic frequency drive motor to be provided for variable working and spin speed.
5.4	The cylinder beaters should be designed to ensure a gentle, rapid and uniform treatment of all fabrics.
5.5	The mechanical parts shall be properly covered & sealed so that only SS parts are exposed inside the clean room.
5.6	Door should be suitably big for easy loading and unloading of garments.
5.7	Acceleration and Braking should be gradual and adjusted via VFD/Electronically.
5.8	Toughened glass view panel to be provided in the door with proper leakproof sealing
5.9	Door interlock with motor functioning shall be provided.
5.10	Overload protection/ Indication & alarm shall be provided
5.11	Water filling / Draining shall be controlled by control system.
5.13	Machine shall be provided with heat balance control.
5.14	Foundation for the machine and erection on the same under the scope of the supplier.
5.15	Electrical components of the machine should be with water protection.
5.16	Machine should be programmable for specific linen type and specific linen processing.
5.17	Memory presettings for different drying cycles.
5.18	LED display to indicate the progress of the cycle.
5.19	Proper earthing should be provided. Client will provide earthing through the incoming power supply cable. Necessary termination to be provided in the termination point.
5.20	Drain connection with drain hose (Up to drain point in Vendor scope). Vendor to ensure that condensate flows out gradually, or providing necessary sealings with the floor traps so that condensate doesn't gush out turbulently during drain.
5.21	Steam provided should not in contact with the garments used for drying.

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5.22	Steam should be circulated through jacket of the machine for drying of garments.		
5.23	Their should be an interlock between steam valve and temperature inside the machine		
5.24	Autovalve on the steam line and integration with machine will under vendor scope		
5.25	Alarm should be provided for over heating of garments, low steam supply, high steam supply, Over drying period		
5.26	Energy efficiency class B.		
5.27	Utility Consumption (Vendor to Specify): Steam consumption/ cycle:----- Electricity Consumtion:-----		
5.28	Vendor to Specify: Drum Size as per capacity shall be considered (Minimum, dry weight of laundry) :----- Drum minimum/ maximum RPM : ----- Note:Vendor to design and ensure for achiving more than 95% drying after the cycle.The shall be verified by the client during FAT and commissioning.		
5.29	All steam contact parts should be able to withstand temperature upto 150 °C		
6	Other requirement		
6.1	All the wiring should be neatly dressed in PVC cable trays with Covers		
6.1	All Electrical parts including the MCB's, Relays, connectors etc must be fixed on DIN Rails/Fixed boards for easy Maintenance		
6.1	All connections inside must be provided using Terminal Blocks/connectors fixed on DIN Rail / fixed board. No Open Joints are allowed		
6.1	All connections to the terminal block/connectors are to be done using 'Cable lugs with Insulation' of appropriate sizes and the same has to be crimped tightly		
6.1	Proper Ferruling and Tagging of every individual cable (Control & Power)		
6.1	All Electrical Components like, VFDs, Relays, Terminal Blocks etc. must be tagged. This should reflect in the Wiring Diagram to be Submitted along with other documents		
6.1	A wiring Diagram incorporating and matching with the cables laid should be provided with the machine		
6.1	The electrical Wiring Diagram with the Operating Manual, should be explicitly provided by vendor.		
6.2	All bolts, nuts on the exterior part of equipment should be with cap head or cap nut.		
6.3	There should be no crevices, so as to avoid dust accumulation		
7	Regulatory guidelines / standards		
7.1	Not Applicable		

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8	Safety requirements		
	Following facilities must be provided to protect personnel and equipment:		
8.1	Appropriate closure of all parts.		
8.2	On power failure equipment should come in failsafe condition		
8.3	Appropriate closure of all parts		
8.4	Proper earthing is necessary		
8.5	Doors interlocking alarm (visual/ audio).		
8.6	Noise level should be below 70 decible at a distance of 1m from the equipment		
8.7	System shall be insulated properly		
9	Documents		
	Following documents, but not limited to these, are expected from the vendor as part of the supply package in hard copy as well as editable electronic file		
9.1	IOQ document.		
9.2	Operation and maintenance manuals shall be provided along with IOQ documents during installation at site.		
9.3	Calibration certificate of critical instruments with respect to the traceable national reference standard instrument and their calibration procedure.		
9.4	Warranty Letter for minimum 1 year from the date of completion.		
9.5	Vendor should provide list of standard spare parts with ordering information.		
9.6	Vendor should provide list of change parts (if applicable) with ordering information.		
10	Timelines		
10.1	Not Applicable		
NOTE: Accurate size and technical specification need to be mentioned by the vendor			

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Table-1: Equipment location

Equipment ID	Block Name	Room Name	Room No	Room dimension in mm
B1-GDM-01	Diphtheria and Pertussis	Wash	B1F015	3080 x 3250
B2-GDM-01	Tetanus	Cloth washing	B2F011	4695 x 3830
F1-GDM-01	Formulation	Cloth washing	F1F007	4630 X 3910
M1-GDM-01	Microbiology and QC	Washing + Drying	M1F007	4435 X 4000

NOTE: Accurate size and technical specification need to be mentioned by the vendor.

	AFI Approved for Enquiry	AFO Approved for Ordering			
1	08-01-2016	SDBB	Anto Felix		
REV	Date	Completed	Checked By	AFI	AFO