








DATA SHEET						
HLL Biotech Limited, CHENNAI						
		REVIVAL OF DPT VACCINE MANUFACTURING FACILITY, PII, COONOR				
		Garment Washing Machine cum Dryer				
		Project No	110831			
		Equipment ID	See List Below			
		Document No	DS-GWM 01			
1	Process requirements					
1.1	To wash and dry the clean room garments					
2	Technical Specifications					
2.1	Model	cGMP (Industrial)				
2.2	Type	Front loading, automatic washer cum dryer				
2.3	Capacity	Block	Equipment ID	Capacity, Kg (Nearest to standard)	Quantity	Remarks
		Diphtheria and Pertussis block	B1-GWM 01	30	1	
		Tetanus Block	B2-GWM 01	15	1	
		Formulation Block	F1-GWM 01	30	1	
		Microbiology and QC	M1-GWM 01	30	1	Shall be used for washing and drying of garments from Animal Breeding, Animal Experimental, Secondary Packing and Warehouse blocks
2.4	Drum Speed, Wash Speed, Spin speed, G-Factor Spin Speed	Vendor to specify				
2.5	Heating	Steam heating				
2.7	Door Hinge	Left				
2.8	Protection for motor	IP 54				
2.9	Dimension (H x W x L) in mm	Vendor to specify				
2.10	Operating temperature	Vendor to specify (settable)				
2.11	Inlet Utility Connection	PW (Purified Water) (Temperature : Ambient , Pressure : 2-3 barg)				
		WFI (Water for injection) (Temperature : 80 -85 °C , Pressure : 1-2 barg)				
		Black steam (Temperature : 135°C , Pressure : 3.5 barg)				
		Vendor to provide necessary arrangements/connection from the user point (Autovalves, hoses, etc.) and SS filter should be considered for black steam line				
2.12	Electrical Requirement	To be compatibility to the standard Indian Power supply sockets				
3	Material Of Construction					


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3.1	All contact parts with garments (Cabinets, inner drum, Jacket, tub, inlet and outlet connections, door frame etc.)	SS 304	
3.2	Legs	SS 304	
3.3	HOSE pipe	Silicon or PTFE type (It should be non corrugated) with TC ends	
4	Specific requirements		
4.1	Machine should be provided with Micro processor/ PLC control		
4.2	Electronic frequency drive motor to be provided for variable working and spin speed.		
4.3	Number of PW washers, number of WFI washes should be able to define in the PLC by user as required		
4.4	One dispenser for additives with pump must be provided. (Normally 10-15 gm of common detergent per Kg of clothes)		
4.5	The cylinder beaters should be designed to ensure a gentle, rapid and uniform treatment of all fabrics.		
4.6	The mechanical parts shall be properly covered & sealed so that only SS parts are exposed inside the clean room.		
4.7	Door should be suitably big for easy loading and unloading of garments		
4.8	Acceleration and Braking should be gradual and adjusted via VFD/Electronically.		
4.9	Toughened glass view panel to be provided in the door with proper leakproof sealing		
4.10	Door interlock with motor functioning shall be provided.		
4.11	Overload protection/ Indication & alarm shall be provided		
4.12	Water filling / Draining shall be controlled by control panel		
4.13	Machine shall be provided with inbuilt extractor facility for the clothes also with spinning drum.		
4.14	Machine shall be provided with balance control.		
4.15	Foundation for the machine and erection on the same under the scope of the supplier.		
4.16	Machine should have total water protection.		
4.17	Machine should be programmable for specific linen type and specific linen processing.		
4.18	Memory presettings for different washing cycles.		
4.19	LED display to indicate the progress of the cycle.		
4.20	Proper earthing should be provided. Client will provide earthing through the incoming power supply cable. Necessary termination to be provided in the termination point.		
4.21	Drain connection with drain hose (Up to drain point in Vendor scope). Vendor to ensure that water flows out gradually, or providing necessary sealings with the floor traps so that water doesn't not gush out turbulently during drain.		
4.22	Steam provided should not in contact with the garments used for washing and drying.		
4.23	Steam should be circulated through jacket of the machine for heating while washing & drying of garments.		
4.24	There should be an interlock between steam valve and temperature inside the machine		
4.25	Autovalue on the steam line, water lines should be integrated with the machine will be under vendor scope		
4.26	Alarm should be provided for over heating of garments, low steam supply, high steam supply, insufficient water (PW &WFI) supply		
4.27	Energy efficiency class B.		
4.28	Utility Consumption (Vendor to Specify): Purified Water consumption/ cycle:----- Electricity Consumption:-----		
4.29	Drying/extraction cycle should start after the completion of washing cycle defined by the user to the machine		
4.30	Drying of garments will take place to certain extent, it should be defined by the vendor and shall provide moisture content of the garments		
4.31	Garments should be dried upto 75% minimum after the drying cycle		

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4.32	Vendor to Specify: Drum Size as per capacity shall be considered (Minimum, dry weight of laundry) :----- Drum minimum/ maximum RPM : ----- % of drying :-----			
5	Other Requirements			
5.1	All the wiring should be neatly dressed in PVC cable trays with Covers			
5.2	All Electrical parts including the MCB's, Relays, connectors etc must be fixed on DIN Rails/Fixed boards for easy Maintenance			
5.3	All connections inside must be provided using Terminal Blocks/connectors fixed on DIN Rail / fixed board. No Open Joints are allowed			
5.4	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			
5.5	Proper Ferruling and Tagging of every individual cable (Control & Power)			
5.6	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			
5.7	A wiring Diagram incorporating and matching with the cables laid should be provided with the machine			
5.8	The electrical Wiring Diagram with the Operating Manual, should be explicitly provided by vendor.			
5.9	All bolts, nuts on the exterior part of equipment should be with cap head or cap nut.			
5.10	There should be no crevices, so as to avoid dust accumulation			
6	Regulatory aspects			
6.1	NA			
7	Safety requirements			
	Following facilities must be provided to protect personnel and equipment:			
7.1	Appropriate closure of all parts.			
7.2	On power failure equipment should come in failsafe condition			
7.3	Appropriate closure of all parts			
7.4	Proper earthing is necessary			
7.5	Doors interlocking alarm (visual/ audio).			
7.6	Noise level should be below 70 decible at a distance of 1m from the equipment			
7.7	System shall be insulated properly			
8	Electrical			
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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 Protocol.			
9.2	Operation and maintenance manuals shall be provided along with IQ and OQ documents during installation at site			

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9.3	Calibration certificate of critical instruments with respect to the traceable national reference standard instrument and their calibration procedure.					
9.4	All equipment warranty should be valid for one 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					
9.1	Not applicable					
	NOTE: Accurate size and technical specification need to be mentioned by the vendor.					
	AFI Approved for Enquiry			AFO Approved for Ordering		
01	2015-10-16	MNS	PULM	<input type="checkbox"/>	<input type="checkbox"/>	
Rev	Date	Completed By	Checked By	AFI	AFO	Sheet 1/2

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nne pharmaplan®	REVIVAL OF DPT VACCINE MANUFACTURING FACILITY, PII, COONOR			 HBLBIOTECH LIMITED <small>(Subsidiary of PII, Uthmaniyah Limited (a Government of India Enterprise))</small>	
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ROOM LOCATION:

EQUIPMENT ID	Block Name	Room Name	Room No	Room dimension in mm	Room height in mm
B1-GWM 01	Diphtheria and Pertussis	Wash	B1F015	3080 x 3250	2400
B2-GWM 01	Tetanus	Cloth Washing	B2F011	4695 x 3830	2400
F1-GWM 01	Formulation	Cloth Washing	F1F007	4630 X 3910	2400
M1-GWM 01	Microbiology and QC	Washing + Drying	M1F007	4435 X 4000	2400

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

AFI Approved for Enquiry			AFO Approved for Ordering		
01	2015-10-16	MNS	PULM	<input type="checkbox"/>	<input type="checkbox"/>
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