

DATA SHEET

HLL Biotech Limited, Chennai

	REVIVAL OF DPT VACCINE MANUFACTURING FACILITY, PII, COONOOR		 <small>HLL BIOTECH LIMITED (Subsidiary of HLL Lifecare Limited) (A Government of India Enterprise)</small>
	Euthanasia Chamber		
	Project #	110831	
	Document #	DS-EUT 01	

1	Process requirements	
1.1	Lab animal euthanization is a procedure by which laboratory animals are killed quickly and painlessly. The same is necessitated on termination of an experimental procedure or otherwise for ethical reasons, Euthanasia chambers are designed for this purpose where in regulated CO ₂ (approved inhalant euthanasia gas) will be used.	
2	Equipment ID and Capacity	
2.1	A2-EUT 01 -02 - Two Chamber system (Client to confirm)	
2.2	A1-EUT 01-02 - Four Chamber system (Client to confirm)	
3	Technical Specification	
3.1	Model	cGLP compliant
3.2	Overall Dimension (WxDxH) mm	<i>vendor to specify exact dimension as per the number of chambers</i>
3.3	Inner Dimension (WxDxH) mm	<i>vendor to specify exact dimension</i>
3.5	Quantity	4 No's
3.6	Electrical Requirement	Power Consumption: <i>Vendor to specify to be compatible with Indian power supply sockets</i>
3.7		220-230 V, 50 Hz , Single phase
4	Material of Construction	
4.1	Body	The combination of the material used for the body construction shall be GLP compliant
4.2	Support Stand	Heavy duty, rust free stainless steel construction with lockable castor alloy
4.4	Chamber Door	Non shatterable transparent glass with safety locks, MOC of the chamber door shall be non reactive to CO ₂ and shall be scratch proof
4.7	Welds if any, shall be ground finish	
5	Specific Equipment requirement	
5.1	The design feature of the equipment shall facilitate individual chamber operation or in groups of 2, 3 or 4 there by optimizing CO ₂ usage.	
5.2	Front loading, swing down door for easy cage access shall be provided.	
5.3	Clear polycarbonate door provides excellent visibility should be provided. Chamber door shall be sturdy, leak proof, gasket sealed and transparent to facilitate visibility inside. The door shall automatically lock during operation.	
5.4	Blower System shall be balanced for vibration free operation and noise level.	
5.5	The chamber space shall be accomodative to rodent cages.	
5.6	Soft touch controls for blower, light and outlet.	
5.7	<p>It shall have a controller which automates a four stage for Euthanasia by controlling variables of flow rate and timings:</p> <p>a) Stage 1 flow rate A : Animals are anesthetized with low CO₂ flow.</p> <p>b) Stage 2 flow rate B : CO₂ flow increases to euthanizing concentration and continues to complete euthanasia.</p> <p>c) Stage 3 Dwell Time : Gas shuts off and chamber remains fully charged with CO₂ to ensure euthanasia of all animals.</p> <p>d) Stage 4 Evacuation : On-board blower evacuates CO₂ and shuts down automatically when the chambers are fully purged.</p> <p>Note : Evacuated CO₂ shall be sent through room exhaust line with HEPA filter and should ensure 100% exhaust.</p>	

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5.8	Control unit shall ensure: a) Automatically shut off the gas after the euthanasia cycle is complete. b) Minimize operator error and excessive gas use. c) Available as a single cage or four cage controller.		
5.9	Interactive control panel that facilitates easy training and operation with pre-sets for each animal species		
5.10	All the required components for the complete functionality of the equipment shall be under the scope of the vendor		
5.11	Access to programming presets should be password protected to ensure that only authorized personnel can make changes.		
5.12	CO ₂ flow rate shall be adjustable.		
5.13	CO ₂ cylinders for operation to be considered in vendors scope.		
5.14	Electronic microswitch shall be provided to prevent the operation when chamber door is not properly closed.		
5.15	A temperature-air flow velocity sensor shall be provided with real time display for monitoring.		
5.16	Gas shall be fully evacuated if system shuts down before cycle is completed.		
5.17	It shall have fully automated control of flow and timings		
5.18	Warning light indication shall be available for CO ₂ loss.		
6	Other requirement		
6.1	Design of the equipment shall facilitate easy cleaning.		
6.2	All bolts, nuts on the exterior part of equipment will be with cap head or cap nut.		
6.3	There shall be no crevices, so as to avoid dust accumulation		
6.4	In general the equipment has to be designed in a way to get easy and quick access to all necessary maintenance points e. g. motors, filters, etc.		
6.5	All parts of the machine exposed must be resistant to standard disinfectants or vendor shall provide the name of specific disinfectants.		
6.6	Failure mode detection A. Equipment shall be capable to detect the following failure, notify the operator with alarm and shutdown the process: a) Blower motor overload. b) Emergency stop activated. c) CO ₂ leakage from the unit. d) Alarm shall be triggered if the front door is raised during operation		
6.7	Vendor to submit detailed fabrication drawing for approval before fabrication.		
6.8	Accessories : One set(for each euthanasia equipment) of accessories which included 4 tank micro manifold CO ₂ cylinder adapter , heated regulator and high flow regulator and high flow regulator shall be provided by the vendor		
7	Regulatory aspects		
7.1	AVMA Euthanasia Guidelines		
8	Safety requirements		
8.1	Chamber to be leak proof		

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9 Documents

9.1 **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**

9.2 Operation and maintenance manuals with on-site training

9.3 IOQ Protocols to be provided by Vendor

9.4 Vendor should provide warranty Letter for 1 years, from the date of completion.

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

		AFI Approved for Enquiry		AFO Approved for Ordering		
01	24-09-2015	MNS	PULM	<input type="checkbox"/>	<input type="checkbox"/>	
Rev	Date	Completed By	Checked By	AFI	AFO	Sheet 1 / 2

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TABLE NO: 1					
EQUIPMENT ID	Block Name	Room Name	Room No	Room dimension in mm	Room height in mm
A1-EUT 01	Animal Breeding block	Post mortem room	A1G019	3600 x 3125	2700
A1-EUT 02	Animal Breeding block	Post mortem room	A1F018	3700 x 3130	2700
A2-EUT 01-02	Animal Experiment block	Euthenasia + Post mortem room	A2G021	4400 x 2550	3000



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