

Equipment Specification Data Sheet

Equipment Name: Euthanasia Chamber

Document No.: DS-EUT 01


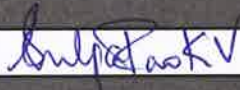

Revision: 04

Project No.: 120310

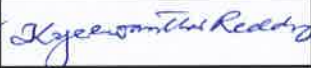



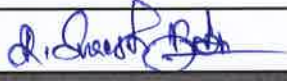

Project Name: Integrated Vaccines Complex,  
Chengalpattu


Block Code	Block Name	Identification No.	Capacity	Quantity
G1	Animal House	G1-EUT 01	2 Chamber system	1
G1	Animal House	G1-EUT 02	4 Chamber system	1
G1	Animal House	G1-EUT 03	2 Chamber system	1


NNE Pharmaplan India Limited


Name	Designation	Signature	Date
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HLL Biotech Limited


Name	Designation	Signature	Date
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HLL Biotech Limited, Chennai		
	<b>INTEGRATED VACCINES COMPLEX, CHENGALPATTU</b>	
	Equipment Name	Euthanasia Chamber
	Document No.	DS-EUT 01
	Revision No.	04
<b>1</b>	<b>Process requirements</b>	
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 <sub>2</sub> (approved inhalant euthanasia gas) will be used.	
<b>2</b>	<b>Equipment ID and Capacity</b>	
2.1	G1-EUT 01 - 2 Chamber system	
2.2	G1-EUT 02 - 4 Chamber system	
2.3	G1-EUT 03 - 2 Chamber system	
<b>3</b>	<b>Technical Specification</b>	
3.1	Model	cGLP compliant
3.2	Overall Dimension (WxDxH) mm	vendor to specify exact dimension as per the number of chambers
3.3	Inner Dimension (WxDxH) mm	vendor to specify exact dimension
3.4	Quantity	3 No's
3.5	Power requirement	To be compatible with standard Indian power supply sockets
<b>4</b>	<b>Material of Construction</b>	
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
4.3	Chamber Door	Non shatterable transparent material with safety locks, MOC of the chamber door shall be non reactive to CO <sub>2</sub> and shall be scratch proof
4.4	Welds if any, shall be ground finish	
<b>5</b>	<b>Specific Equipment Requirement</b>	
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 <sub>2</sub> 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 accommodative to rodent cages.	
5.6	Soft touch controls for blower, light and outlet.	

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5.7	It should have a controller which automates a four stage for Euthanasia by controlling variables of flow rate and timings: a) Stage 1 flow rate A : Animals are anesthetized with low CO <sub>2</sub> flow. b) Stage 2 flow rate B : CO <sub>2</sub> flow increases to euthanizing concentration and continues to complete euthanasia c) Stage 3 Dwell Time : Gas shuts off and chamber remains fully charged with CO <sub>2</sub> to ensure euthanasia of all animals. d) Stage 4 Evacuation : On-board blower evacuates CO <sub>2</sub> and shuts down automatically when the chambers are fully purged.  Note : Evacuated CO <sub>2</sub> will be sent through room exhaust line with HEPA filter and should ensure 100% exhaust.		
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 <sub>2</sub> flow rate shall be adjustable.		
5.13	CO <sub>2</sub> 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 <sub>2</sub> 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	<b>Failure mode detection</b> 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 <sub>2</sub> 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.		

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6.8	Accessories : One set(for each euthanasia equipment) of accessories which included 4 tank micro manifold CO2 cylinder adapter , heated regulator and high flow regulator shall be provided by the vendor.		
6.9	Training/Demo for the users on operation and cleaning to be provided.		
7	<b>Regulatory aspects</b>		
7.1	AVMA Euthanasia Guidelines.		
8	<b>Safety Requirements</b>		
	<b>Following facilities must be provided to protect personnel and equipment:</b>		
8.1	Chamber to be leak proof.		
8.2	Proper Earthing is necessary.		
8.3	Appropriate closure of all parts.		
9	<b>Documents</b>		
	<b>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</b>		
9.1	IOQ documents.		
9.2	Operation and maintenance manuals shall be provided along with IQ and OQ Documents during installation at site.		
9.3	Warranty letter for 1 year from the date of supply.		
9.4	List of standard spare parts with ordering information.		
9.5	Calibration certificate of critical instruments with respect to the traceable national reference standard instrument and their procedure.		
10	<b>Preferred list of Makes</b>		
10.1	Euthanex, Orchid Scientific & Innovative India Pvt Ltd,		
	<b>NOTE:</b> Accurate size and technical specification need to be mentioned by the vendor		



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<b>Table-1: Equipment location</b>					
EQUIPMENT ID	Block Name	Room Name	Room No	Room dimension in mm	Room height in mm
G1-EUT 01	Animal House	Euthanization-Challenge area	G1G108	3975 x 3450	2700
G1-EUT 02	Animal House	Euthanization-Testing area	G1G046	3500 x 5100	2700
G1-EUT 03	Animal House	Euthanization-Breeding	G1G095	3600 x 5100	2700
<b>Table-2: Change Log</b>					
Date	Name	Revision	Section	Change / Comment	
11-07-2014	Manohar	00	-	New document	
04-08-2014	Manohar	01	All	Updated as per comments received from HBL dated 04-08-2014	
27-10-2014	Manohar	02	All	Updated as per comments received from HBL dated 15-10-2014	
06-01-2015	Yogesha M J	03	All	Updated as per comments given by HBL team during meeting dated 06-01-2015 at HBL office	
29-04-2015	Manohar M S	04	All	Updated as per comments given by HBL team dated on 27-02-2015.	
<b>Table-3: Annexure</b>					
Not applicable					