DVC
DIGITAL VENTILATED CAGE

DVC: WHY?

DVC significantly improves animal welfare as well as animal facility efficiency and productivity, thanks to its 7 modules capable of collecting research data. Animals spend roughly 99% of the day on a rack without being observed: therefore, if further information can be collected whilst the cage is in situ on the rack, this can only lead to a positive effect on animal welfare. Our passion for innovation focuses on delivering outstanding care and welfare to animals, constantly promoting a "culture of care".

DVC: HOW?

The DVC technology is modular and can be retrofitted onto current GM500 cages – this means that there is no requirement to replace any of your current cage stock. The currents SOP's and working practices can remain the same, the equipment can be washed and autoclaved and can be gradually introduced into your animal facility one rack at a time.

FACILITY DATABASE OR WORLDWIDE DATABASE?

DVC allows the comparison of data throughout the world creating a worldwide database of reference material specific to individual mice strains. It will be therefore possible to compare the behavior of mouse strains housed in different animal facilities, giving research staff and managers the confidence that their animal models are comparable to other institutions. The benefits to welfare and research data are clearly astounding.

IS DVC CUSTOMIZABLE?

Of course it is! You can choose the modules combination which better suits your facility needs.Moreover, DVC follows your facility rules: enjoy the DVC revolution without changing your SOPs!

DVC: THE 7 MODULES

1. LEAK DETECTION SYSTEM

The leak detection module, that can be also added as a standalone module on the previous version of the GM racks, enables early detection of automatic watering system failures and ensures no animals are lost due to cages flooding.

2. BEDDING CONDITION MODULE

This module maps the whole cage floor area without coming into contact with the cage, detecting changes in moisture content within the bedding. The system can then suggest when cages need to be cleaned out based on the parameters set during the "learning phase" when the equipment is installed at your facility. This means that there is a standardization of when cages are cleaned out based on similar conditions within each cage. This reduces the stress of the animals, the number of cage changes, the amount of bedding used and the number of cage wash and autoclave cycles required. One of the key elements of this module is that the system is fully customizable to your facility's requirements and your bedding type, with the parameters being set based on your current practices

3. ANIMAL ACTIVITY MODULE

Using the same base plate as the bedding condition module, the animal activity module monitors the overall animal activity in the cage. It compares data from the previous day/days and also similar cages and is able to alert the technician that further checks may be required by illuminating an LED on the new cage runners. The module is capable of making the daily health check more effective and enhances the welfare of the animals by identifying that an animal may be ill and immobile, identify if pups have been born or that an animal has died. This module is not designed to replace the legal requirements of a daily health check, but to enhance the welfare between these daily observations.

4. FOOD AND WATER MODULE

By using a series of infra-red LEDs the food and water module is able to detect the presence of a water bottle, ensures that it is sat correctly within the cage and ensure there is sufficient food and water to last until the following day. These features assure a higher standard of welfare for the animals within our care as well as enhancing the daily checks performed by the technician as the system is able to highlight cages that need to have food and water replenished.

5. IDENTIFICATION MODULE

The ID module consists of a multi coloured LED mounted on the cage runners. This can be used for a variety of purposes to give a visual indicator of a cage: to indicate a cage location for a member of the research team, that a cage needs to be cleaned out, that needs further observation or that it is not seated correctly on the rack. Again, this enhances the welfare of the animals and reduces the time spent looking for a specific cage within the animal room.

6. INVENTORY MODULE

By sticking an RFId tag on the microbiological filter of the cage and an RFId reader into the base plate, we have been able to create a "real-time" cage census, giving occupancy and location of every cage within the facility. The data from this module can be incorporated into existing animal management software, giving easier cage management and billing information. This module can also be incorporated as a standalone module onto existing GM500 racks

7. DVC PLANNER

By collecting all of this information and by the use of clever algorithms, the DVC planner is able to assist with the management of the whole cage process of the animal facility based on a variety of factors. The DVC planner is capable of assigning cage cleaning tasks to each technician based on cage wash and autoclave throughput, re-assign workloads due to staff sickness, identify priority workloads in an emergency/breakdown and allocate work based on health and barrier restrictions.