

 **TECNIPLAST**

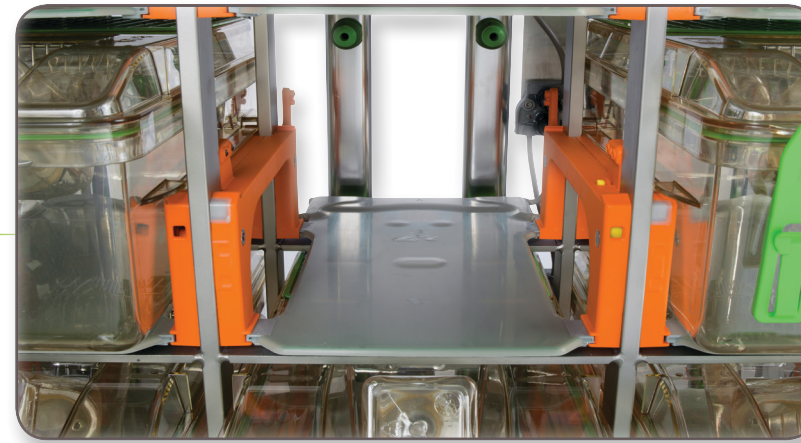


**DVC**<sup>™</sup>  
DIGITAL VENTILATED CAGE

ABOUT THE SYSTEM










**DIGILAB**

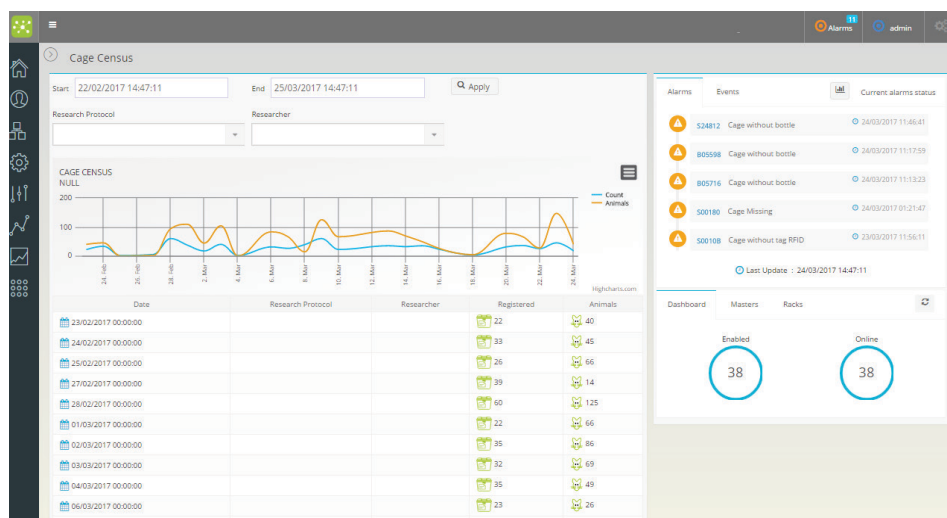


By using digital technology, the DVC™ brings standardization for the improvement of animal welfare, facility operations, and research.

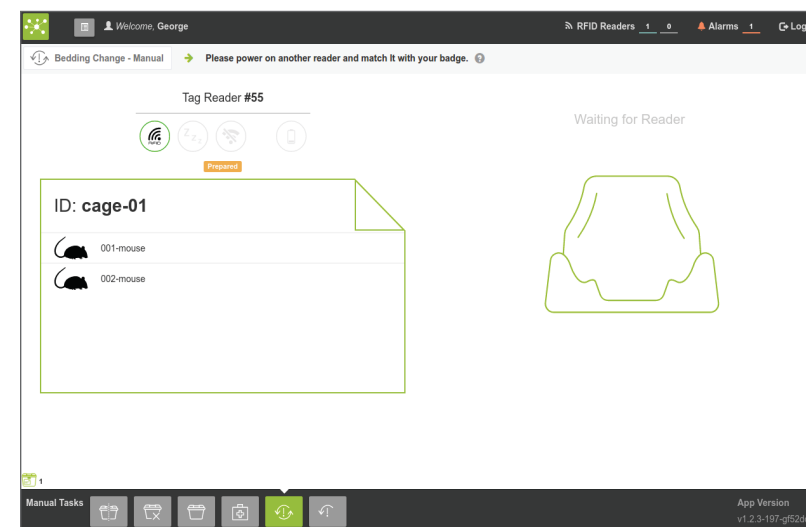
DVC™ has SEVEN MODULES which continuously capture and record data about conditions, events, and activity inside the cage without disturbing or affecting the animals.

An external capacitive sensor plate detects activity, captures the data and sends it to a central server where the DVC™ application is running.

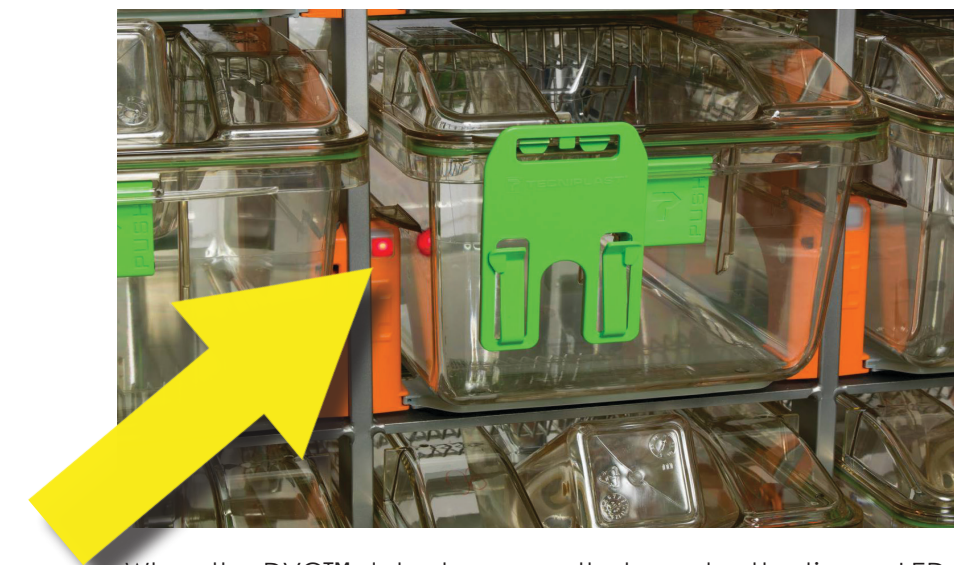
 <b>Bedding Condition</b>	 <b>Food &amp; Water Levels</b>	 <b>Animal Activity</b>	 <b>Leak Detection</b>	 <b>Facility Planner</b>	 <b>Cage Identification</b>	 <b>Cage Census &amp; Location</b>
<ul style="list-style-type: none"> <li>• Reduce animal handling</li> <li>• Avoid unnecessary washing and autoclave</li> <li>• Reduce bedding and labor costs</li> </ul> <p>Bedding Condition is a fully customized module that detects changes in moisture within the bedding.</p> <p>A "learning phase" after installation is required to define the parameters for what is considered a 'dirty' cage based on the facility's standard operation procedures (SOPs)</p>	<ul style="list-style-type: none"> <li>• Save time</li> <li>• Reduce the cost of supplies</li> <li>• Minimize the risk of human errors.</li> </ul> <p>An infra-red system is embedded in the runners to detect food and water levels or if a water bottle is set up properly.</p> <p>An alarm will go off to alert the staff when food and/or water levels need to be replenished or if a bottle is missing or misplaced. A LED light in the cage's runner will turn-on and identify the cage.</p>	<ul style="list-style-type: none"> <li>• Expand the researchers' options.</li> <li>• Monitor animal activity without disturbing the animals</li> </ul> <p>The DVC™ monitors the animal activity inside the cage. By means of a sensor plate the system's software captures data and compares it to different days and similar cages.</p> <p>The Animal Activity module doesn't replace the Guide's recommendations for daily checks but greatly assist in doing so between daily observations, which could contribute to the enhancement of animal welfare.</p>	<ul style="list-style-type: none"> <li>• Avoid losing animals due to AWS leakage or flood</li> <li>• Reduce the risk of hypothermia</li> </ul> <p>DVC™ detects water leakage inside the cage as small as 100 to 150 ml.</p> <p>When a leakage/flood occurs, DVC™ will send an alarm to the operators for immediate action to save the animals.</p> <p>This module is also available as a stand-alone for the standard IVC racks: DGM and 2GM</p>	<ul style="list-style-type: none"> <li>• Improve your facility's daily workflow, task assignment, and utilization of resources</li> </ul> <p>The DVC™ Facility Planner module can assign the cage changing task to staff members based on their schedule and skill level.</p> <p>DVC™ can also identify priorities due to an emergency or breakdown and allocate workload based on health and barrier restrictions.</p>	<ul style="list-style-type: none"> <li>• Easily identify cages that need especial attention or follow-up</li> </ul> <p>Sensors located on the DVC™ runners activate a LED light to identify the cage or cages in need of care or further observation.</p> <p>This feature would help researchers and personnel find a specific cage easily.</p>	<ul style="list-style-type: none"> <li>• Detect cage occupancy and locate cages rapidly and in real-time</li> </ul> <p>DVC™ can perform cage census in real-time and locate every cage in the facility.</p> <p>This module can be integrated with the facility's management software for cage management, billing and invoicing.</p> <p>Cage Census is also available as a stand-alone module for the standard IVC racks: DGM and 2GM.</p>



The system's interface allows facility managers to monitor the status of a cage or the cage system in the animal room at any given time.



Example of the operator interface during bedding changing



When the DVC™ detects a cage that needs attention, a LED light located in the runner turns-on to identify the cage.



## Components & Requirements

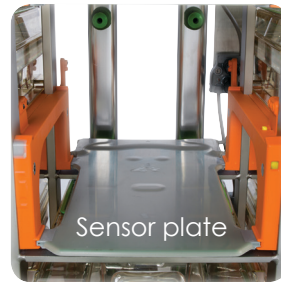
The DVC™ standard components are:

- DVC™ rack with plates & dedicated runners for each cage position
- RFID tagged tops for each cage in the system
- Top holders
- RFID readers with charger
- DVC™ master
- DVC™ software

**Contact your representative for details.**

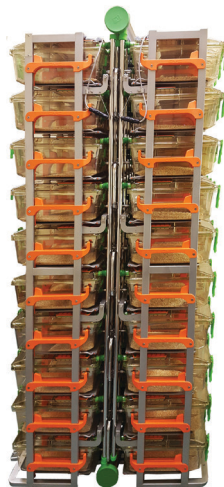
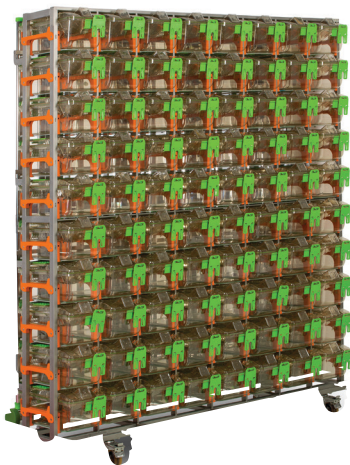
## Requirements

- Ethernet connectivity in the animal room where the DVC™ master and racks are installed.
- A laptop or tablet for the operator to access the DVC™ web application through wireless or wired connectivity to the DVC™ server.
- Additional IT requirements are needed. Ask for details.



Single configuration

Double configuration



Charger with two readers

Reader in Top Holder



## More Information

- One DVC™ master manages up to four (4) single-sided or two (2) double-sided racks.
- The DVC™ master is installed on the AHU and operates independently.
- The DVC™ cages and racks with plates are washable and autoclavable. The plates have been tested through multiple autoclave cycles at 121oC, simulating a life span of more than eight years (three autoclaving cycles per year), without affecting their functionality. Test reports are available upon request. All other system's components are not autoclavable.
- The DVC™ rack and cages can be washed in a standard rack washer. Cages can also be washed in a tunnel washer.
- When using DVC™, the cage changing procedure can be performed on either a changing station, a biosafety cabinet or even a table top.