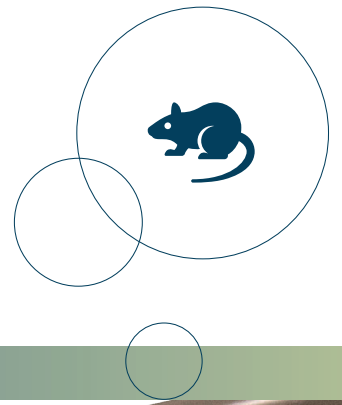


# SCANCLIME®

ACCURATE RELATIVE HUMIDITY  
FOR YOUR RODENTS



REPRODUCIBILITY OF RESEARCH | ENHANCED BREEDING | OPTIMUM ANIMAL WELFARE | IMPROVED WORKING ENVIRONMENT | HUGE ENERGY SAVINGS

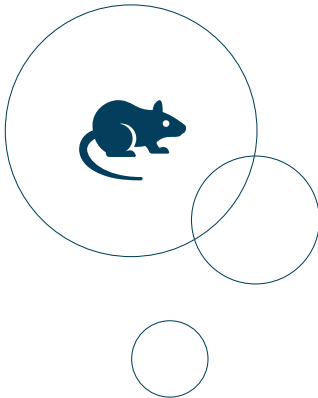
**SCANBUR**   
Improving Life Sciences







ScanClime for racks  
from all major IVC manufacturers



## SCANCLIME ADDS VALUE ACROSS YOUR ANIMAL FACILITY

**RESEARCHER:** *“The outcome of my studies must be independent of the season of the year as well as local weather conditions. Other researchers around the globe must be able to reproduce my studies and relative humidity simply needs to be under control, accurate and logged”.*

**VETERINARIAN:** *“Water content in the air as well as the temperature surely affects the thermoregulation of the rodents. Mice without fur or pups in particular are vulnerable to unwanted fluctuations in their micro climate. Survival of bacteria, growth of fungus and transfer of viruses is affected by relative humidity and for immunodeficient rodents, it could be an area of concern”.*

**FACILITY MANAGER:** *“Optimum animal welfare, attracting the best researchers and providing a good working environment for our animal technicians is key to us. Thus, our housing methods must be highly flexible, reliable, accurate and easy to use. Moreover, it must be a simple task to provide inspectors or researchers with detailed data on temperature and humidity at rack level for any given period of time”.*

**SERVICE TECHNICIAN:** *“ScanClime is from a very experienced supplier with numerous reference sites, and it contains proven technology. Installation is simple and it is easy to maintain and monitor. When connected to the internet, I can see its 24/7 performance without even entering the animal room.”*

**ANIMAL TECHNICIAN:** *“The relative humidity must be higher at rack level than in the animal rooms. Thereby, animal welfare is enhanced and at the same time our working environment is improved.”*

**QA MANAGER / TOP MANAGEMENT:** *“As a part of our ISO 14001 certification we really must reduce our energy consumption. When humidifying air at rack level instead of on room level, the savings are immense. Roughly 1000 liters less water have to be turned into steam for every m<sup>2</sup> of floor area, when humidifying at rack level. For a facility with 600 m<sup>2</sup> of animal rooms and corridors and a target of having 55% relative humidity, our annual energy consumption can be reduced by at least 450000 kWh.”*



ScanClime for ScanTainer

**SCANCLIME IS AN AIR HANDLING UNIT PERFECTED FOR PROVIDING YOUR RODENTS WITH A VERY ACCURATE RELATIVE HUMIDITY.**

**IT IS DESIGNED TO ENSURE REPRODUCIBILITY OF RESEARCH, IMPROVED BREEDING, OPTIMUM ANIMAL WELFARE AND ENERGY EFFICIENT HUMIDIFICATION.**

#### **ACCURATE RELATIVE HUMIDITY - ALL YEAR ROUND**

ScanClime, a patented\* and unrivaled technology, guarantees a stable relative humidity varying less than  $\pm 3\%$  from set point all year round. Even during a cold and dry winter or on a humid summer day and independently of any central heating and ventilation systems in the building.

#### **FULL FLEXIBILITY - EVERYWHERE & FOR EVERYONE**

ScanClime adjusts the relative humidity of the air for individually ventilated cage systems (IVC), isolators and ventilated ScanTainers cabinets.

It has a proven track record together with rack systems from all major IVC manufacturers.

ScanClime has become the preferred solution for humidification of air at rack level, and hundreds are in operation at more than 50 animal facilities around the world. These include new facilities, satellite rooms and older facilities, where obsolete, inaccurate and costly central humidification systems have been superseded.

#### **WHICH SCANCLIME DO YOU NEED - IT'S EASY!**

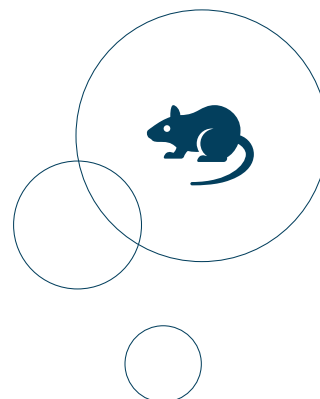
To find the model that suits your facility best, you only have to answer three questions.

- Are we using IVC, isolators or ScanTainers?
- Do we require humidification only, or is dehumidification also required?
- Is RO-water (mineral free water) or local tap water available in the animal rooms?

ScanClime is available in 8 different versions to suit your specific needs. Contact your local product specialist for detailed information on options and installation requirements.



*Unrivaled accuracy of relative humidity varying less than  $\pm 3\%$  from set point all year round*



*ScanClime supplying humidified/dehumidified air to isolators*



*ScanClime supports reproducibility of research and enhanced breeding performance*

Visit our website for the latest findings or download a list of studies already published on the effect of relative humidity at various levels:

[www.scanclime.com](http://www.scanclime.com)



*Controlled relative humidity supports animal welfare*

## POSITIVE EFFECT ON REPRODUCIBILITY OF RESEARCH

The European convention for the protection of vertebrate animals used for experimental and other scientific purposes, ETS 123, specify that for mice and rats a relative humidity of  $55\% \pm 10\%$  must be complied with. At relative humidity levels outside this legislation animal welfare is at stake and rodents may suffer.

For SCANBUR it is not enough to merely meet minimum legislative standards. We strive to provide equipment that offers optimum animal welfare and high reproducibility of research essential to all researchers, veterinarians, facility managers and animal technicians. A relative humidity within a range of 45-65% with an accuracy of  $\pm 3\%$  is easily achieved with ScanClime. Individual requirements for specific types of research or housing of different strains can always be met.

Ongoing studies show interesting data on rodent welfare and physiology, when relative humidity is locally and accurately controlled at for example 55% compared to when relative humidity is controlled centrally, thus fluctuating with the variable weather conditions.



Metabolism



Digestion/Intestinal bacteria



Diabetes



Sensory organs



Respiratory systems



Breeding performance



Behaviour/activity level



Skin/wound healing



Mental illnesses



Cancer treatment



Transfer of viruses

## PROVEN TECHNOLOGY - TRUSTED BY NUMEROUS FACILITIES

Since 2007 SCANBUR has developed and manufactured air handling units for accurate adjustment of relative humidity. Close cooperation with several animal facilities and thorough analysis of different types of technology has resulted in a reliable, accurate and easy to use ScanClime.

Using a patented\* SCANBUR technology, an accurately controlled jet of water is sprayed onto a very hot surface and steam is generated instantly and accurately. Several years of development and testing of various ScanClime versions has proven that adding hot steam instead of a "cold fog" to the air will prevent condensation inside the air handling unit, i.e. HEPA filters always remain dry and effective. The technology will kill pathogens that might originate from the local water supply. Moreover, any potential risk of contamination coming from the water supply is also eliminated by HEPA filtering the air after the humidification process.

\* Europe Patent: EP 2918926B1

US Patent: 10,492,461

Canada Patent: 2,941,796

Japan Patent: JP6182682B2



SCANBUR is the only manufacturer offering air handling units which efficiently and accurately can humidify up to 200 m<sup>3</sup> of air per hour to any required level, even on a cold winter day. Also, SCANBUR is the only supplier of a range of air handling units which can humidify as well as dehumidify.

The ScanClime design is modular making it possible to select models for different types of water available at the facility; tap water at any hardness or RO-water/mineral free water.

### **MORE ACCURATE THAN MOST CENTRAL HVAC SYSTEMS**

Historically, central heating, ventilation and air conditioning systems (HVAC) have been the only available option to adjust the temperature and the relative humidity of air entering an animal facility. Unfortunately, such systems often fail to provide the desired relative humidity in all animal rooms in the building. Especially during the winter or if the building itself is not properly insulated. ScanClime is an obvious and frequently applied solution to overcome such difficulties.

During a year, air which is drawn from the outside to the inside and is then heated to 22°C has a water content fluctuating between 1-19 grams of water per m<sup>3</sup> of air. Significant fluctuations in relative humidity can occur within hours, and central HVAC systems might have a limited response time or capacity. With ScanClime fluctuations can be prevented and a desired set point for relative humidity at rack level can always be maintained.

### **COMPLIANCE WITH ISO 14001 & SUBSTANTIAL ENERGY SAVINGS**

Maintaining a correct relative humidity throughout a year in a properly ventilated facility is associated with an immense energy consumption. By letting ScanClime humidify air at rack level, energy consumption can typically be reduced by 80%. Top management and QA teams looking for obvious methods to comply with ISO 14001 will quickly realize that ScanClime provides massive savings.

### **GOOD WORKING ENVIRONMENT & OPTIMUM ANIMAL WELFARE**

A challenge for many facility managers is diverging opinions between staff wanting a comfortable working environment with a low relative humidity at max. 45% and researchers or veterinarians demanding for example 55% to optimize animal welfare.

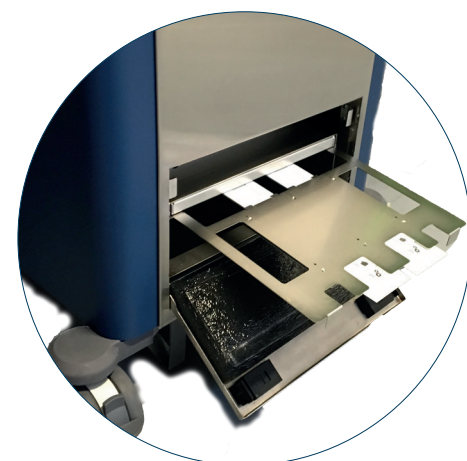
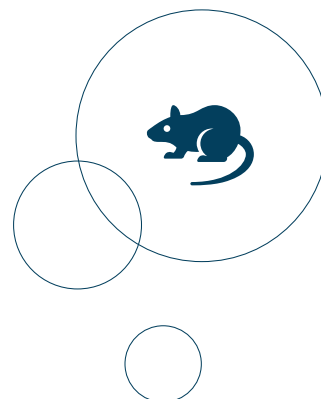
With ScanClime, regulation of relative humidity on a central HVAC can be switched off for the comfort of the staff. ScanClime will always ensure that at higher and very accurate humidity is obtained at rack level.

### **HEALTH MONITORING - MADE EASY**

Interceptor is an irradiated cardboard folder containing a sliding filter for exhaust air dust testing inside the ScanClime. Particles moving from cages to the exhaust filtration area will be collected by the Interceptor filter. PCR testing is performed on the Interceptor filters to determine the presence of nucleic acids associated with the particles it collects and it functions as microbiological monitoring.



*ScanEye - online monitoring and logging of ScanClime performance and protected adjustment of settings*



*Interceptor for exhaust dust testing can replace or supplement the use of sentinel animals*

# DOES RELATIVE HUMIDITY AFFECT REPRODUCIBILITY OF YOUR ANIMAL RESEARCH & BREEDING?



Studies suggest impact on  
**Water intake in mice**  
**Breeding performance in rats**  
**Breeding performance in genetically altered mice strains**

Ongoing studies are investigating impact on  
**Aggression in male mice**  
**Embryo transfer efficiency in mice**  
**Skin health and skin conditions in mice**

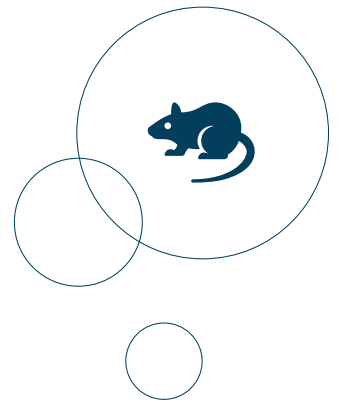
Are you experiencing fluctuating data during the year?  
Have you compared it to humidity levels in your facility?

Contact us for more information: [academy@scanbur.com](mailto:academy@scanbur.com)

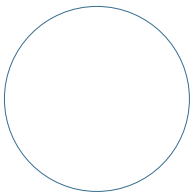
[www.scanclime.com](http://www.scanclime.com)

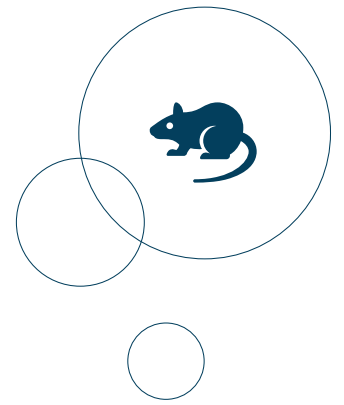


SCANCLIME & SCANTAINER



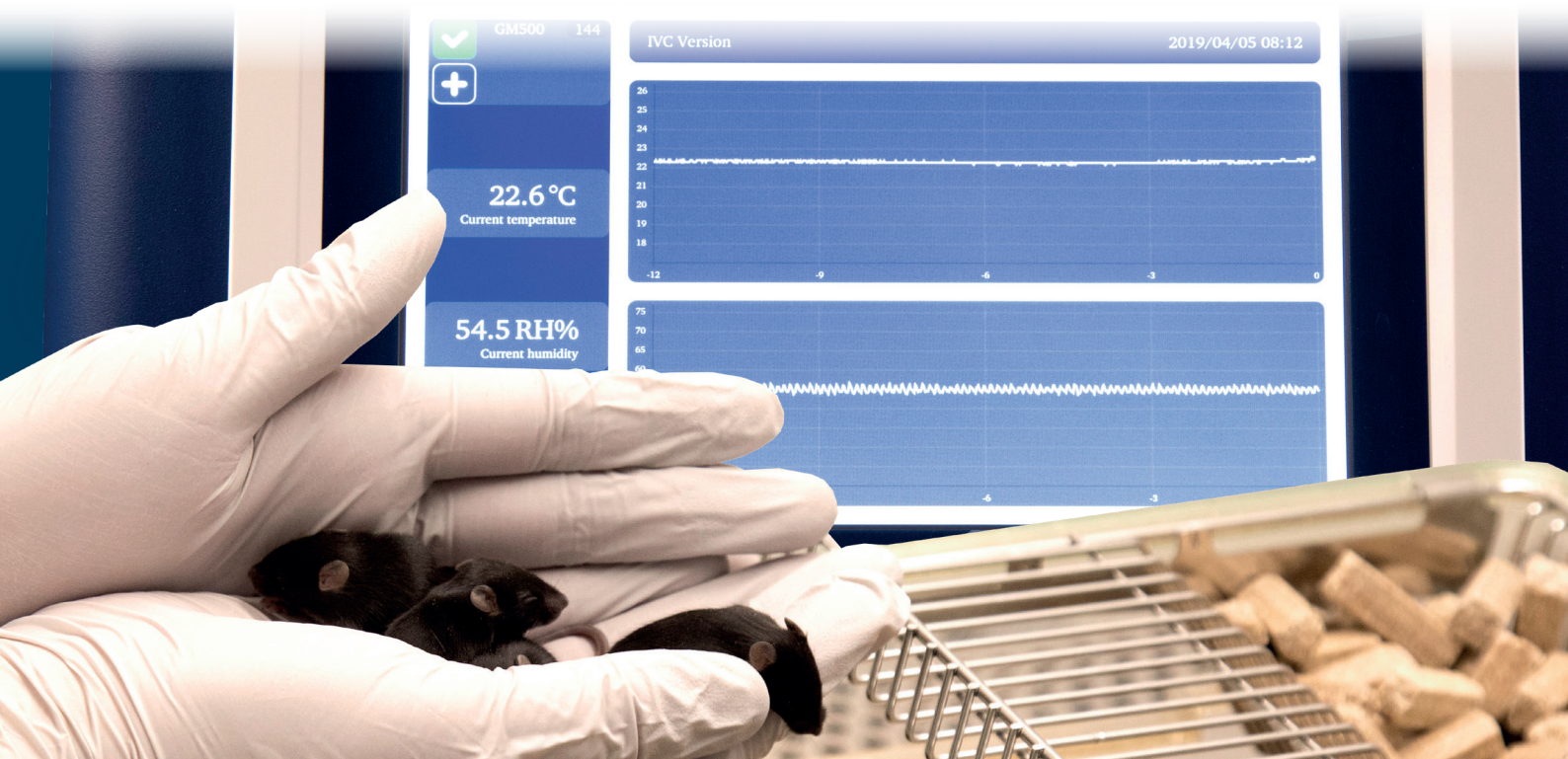
SCANCLIME & IVC





**SCANBUR** is a leading global supplier of ScanClime air handling units for very accurate humidification of air, ScanTainer ventilated cabinets, AirShowers as well as ScanFlow stationary cage changing stations. In Scandinavia we are also a total solution supplier to animal research facilities.

For more information about **SCANBUR** products and to contact your local product specialists, visit [www.scanbur.com](http://www.scanbur.com)



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