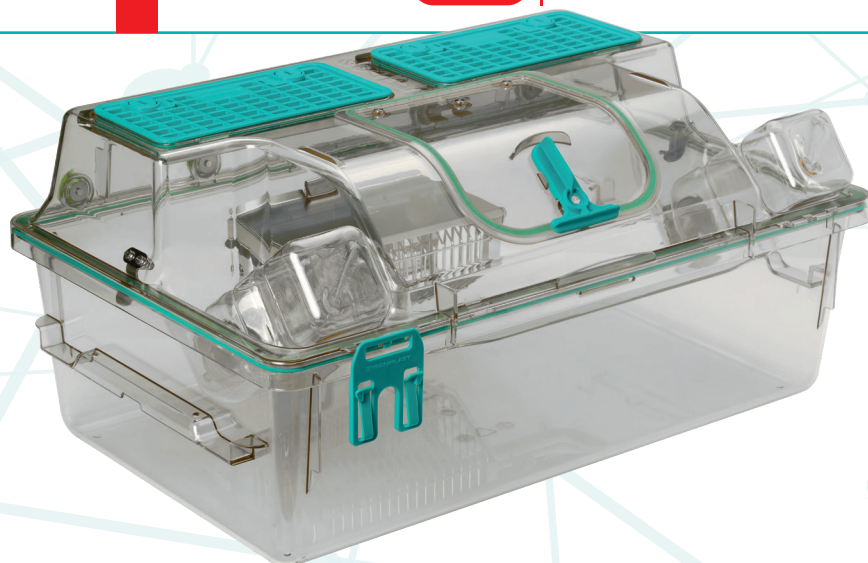




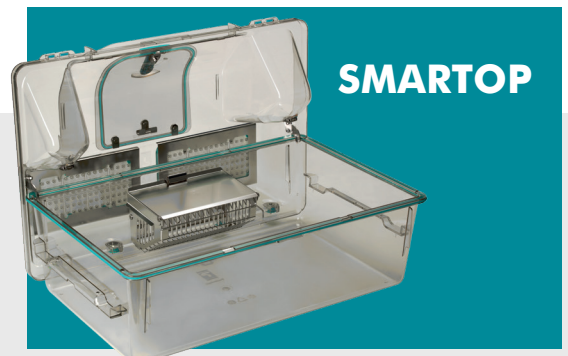
Emerat ER1800 is the new IVC for rats. Its latest generation design provides the best ergonomic solution for operators, thanks to successful innovations such as SmarTop, Vision+, runners with built-in handles and all-in-one racks. At the same time, ER1800 enhances animal welfare providing a spacios environment where rats can express their natural behaviour patterns, such as bi-pedal posture.



## INNOVATION

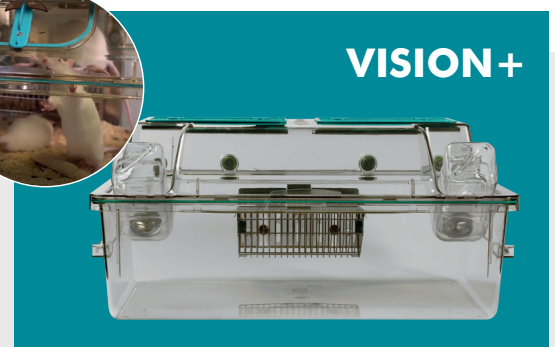
### ▶ SMARTOP

EMERAT's effortless SmarTop brings an unprecedented advantage, allowing the cage top to be vertically positioned on the base – providing the best ergonomic solution for the operator, by reducing twisting of the wrists and arms whilst allowing easy access to animals.



### ▶ VISION+

The latch-free innovative design guarantees unrivalled visibility, providing a clear, unrestricted view allowing daily health and welfare checks to be carried out efficiently. The Tecniplast PATENTED cage sealing design combined with the in-bedded locking system, ensures optimal protection for both animals and operators. Simply place the top on the cage to achieve perfect sealing everytime.



### ▶ ALL-IN-ONE RACKS

Two great IVC rack styles to meet every facilities requirements. Whether it's positioned at the top or bottom, the ERGO rack allows operators easy access to all cages in any position. If space is a premium, the HD rack optimizes space, reduces running costs and is the perfect solution to increase cage density without taking up any more space in the vivariums.



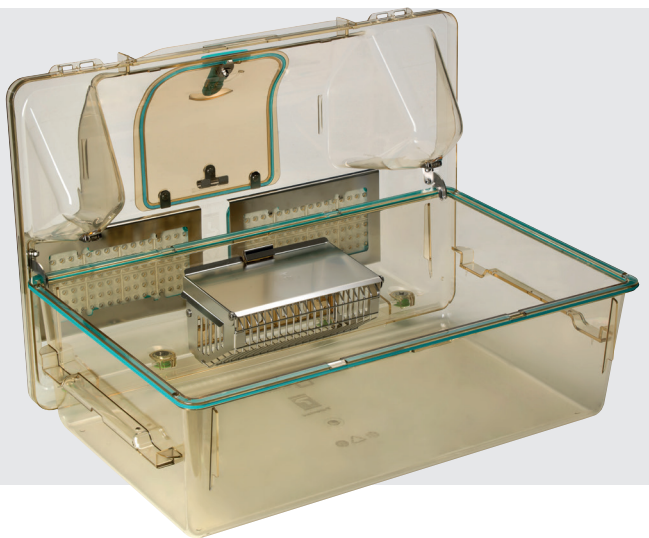


## TECHNICAL FEATURES

### ► CAGE DESIGN

ER1800 is available in **H-TEMP (Polysulfone)**.

The new **stainless steel lid free design** provides a generous **internal height of 26 cm**. Animals have access to 100% of the space available, favoring the expression of positive behavioral patterns including the bipedal position. The **feeder** is anchored directly to the wall of the cage base. The sliding mechanism means it can be removed and positioned easily. It is manufactured in **AISI 314 stainless steel**, with the rear wall in **polyphenylsulfone** which houses the sliding mechanism to attach it to the cage base. The **cage top** features two microbiological filters with an average certified **Virus Filtration Efficiency (VFE) of 99.97% and Bacteria Filtration Efficiency (BFE) of 99.99%**, which has been demonstrated to guarantee life support in the event of a power failure. The microbiological filter installed ensures a **pressure differential can be maintained**. Furthermore, the filter guarantees **no biological agents or allergens** can transfer to or from the cage, contributing positively to the animals' health status and operator safety.



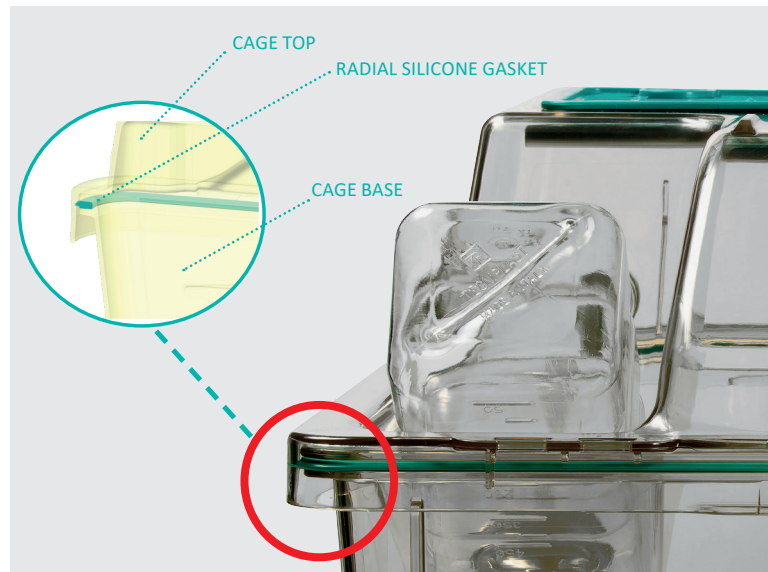
### ► SEALING

EMERAT cages feature a **PATENTED cage design**, consisting of a soft radial **silicone gasket that protrudes around the rim of the cage base**: a perfect seal is achieved by placing the top onto the cage body, through the radial connection between gasket and cage top. Additionally the vertical compression (commonly provided by the use of latches) of the silicone gasket between cage base and top is not required:

- no latches for greater ergonomics;

- no latches required to achieve containment and high protection.

Lastly, the cage top with frontal hatch is equipped with a **silicone gasket all round the perimeter of the hatch** providing a perfect seal.



### ► AIRFLOW PATTERN

**Air supply and exhaust valves are located in the cage top:**

No air drafts at animal level, avoiding the risk of stress and heat loss, as reported in the scientific literature.

**The Cage air valves are protected by stainless steel** providing a highly efficient seal when the cage is undocked from the rack during transportation. **Non invasive rack supply and exhaust nozzles that are external to the cage** ensures they are not exposed to the cage environment, thus preventing cross-contamination, yet maintaining operator protection.

### ► BOTTLE

The **external water bottle**, together with the self-centring bottle depression design, ensures easy and quick access to the bottle without the need to remove the cage from the rack. The bottle has a **silicone gasket around the neck**, reducing the risk of leaks and provides an easy decapping process. Manufactured from **welding free AISI 316 Stainless Steel**, the bottle cap features a **silicone O-ring on its sipper stem** which creates a perfect coupling with the top once the bottle is in position, providing maximum sealing and protection.





► **CARD HOLDER**

The **universal plastic card holder** is compatible with any label and can be easily flipped up.

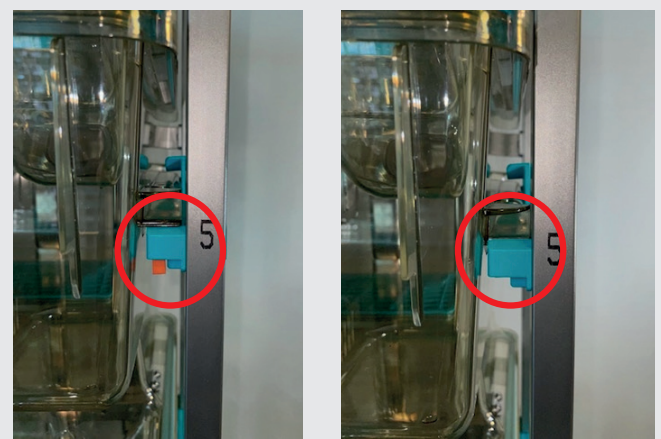


► **RACK**

The rack frame is manufactured from **high quality AISI 304 stainless steel** and features **special polyamide runners** for cage accommodation. The racks are available in **both 5 and 6 rows** maximizing cage density without compromising user ergonomics. This also optimises space within the facility overall cage capacity.

The vertical design of the exhaust plenums allows particles extracted from the cage (food, bedding, dander, debris, etc ...) to fall by gravity into the removable horizontal exhaust plenum. **The removal of the horizontal supply and exhaust plenums is totally tool-free and can be easily performed by a single operator.**

The **automatic visual docking indicator** allows the clear and immediate indication that cages are correctly/incorrectly docked, while the unique design of the runners, with the **self-locking system** keeps the cage in place, avoiding any accidental movement of the cage when it is docked on the rack. The **new runners with built-in handles** allow the cage to be partially undocked from the rack allowing for quick access to the cage.



The rack is equipped with **Polyphenylsulfone (X-TEMP) castors**. This plastic has outstanding physical properties, providing a long lifespan perfectly withstanding many autoclave cycles. Moreover, the very low force required to enable/disable the brakes makes these castors extremely ergonomical. The connection between the racks and the Air Handling Unit is completed with a **silicone flexible connection with autoclavable plastic components**. Connections have been designed to make the assembling and the connection/disconnection easy. Optional **magnetic connections** are also available.





## ► AIR HANDLING UNIT

**Wi Flow, Smart Flow, Easy Flow, Clima Flow and Sky Flow** are microprocessor driven (automatic constant flow rate and filter load compensation), guaranteeing safety for animals, operators and the environment. Tecniplast AHUs are equipped with **New DC Electronically Commuted Motors (ECM): 50% less power consumption and 90% less heat loss** than the previous generation of AHUs, guaranteeing a longer lifespan. **The multilinking feature allows multiple racks to be supplied from a single AHU, reducing maintenance and consumables costs.** Air is filtered by two **G4 pre-filters and two H14 HEPA filters**, one for the supply and for the exhaust: the HEPA filters have a **certified filtration efficiency of 99.995% at the most penetrating particle size** and are **DOP tested** once installed in the machine.

All Air Handling Units are compatible with state-of-the-art technologies for remote monitoring and control:

- **ONE 2 ONE:** allows each and every AHU to be controlled via any portable device through a modern interface. One control device for all AHUs.
- **GUARDIAN:** the system allows all AHUs in the facility to be remotely monitored and controlled. Users receive notifications in the event of an alarm and can record all environmental parameters. Guardian provides you with global viewing and remote control of your AHUs.



## ENVIRONMENTAL SUSTAINABILITY: MINIMIZE IMPACT MAXIMIZING VALUE

### WHAT TECNIPLAST HAVE ACHIEVED TO BECOME A LEADER IN SUSTAINABILITY:

#### COMPANY:

- Quality Management System Certification according to ISO 9001:2015
- Environmental Management System according to ISO 14001:2015 .
- Ecodesign according to ISO 14006.2020
- Certified Environmental Report according to Eni Foundation Enrico Mattei Guidelines, to ISO 14016:2020 and General Reporting Initiative Standards (GRI).

#### PRODUCTS:

- Life Cycle Assessment (LCA) according to ISO 14040 and ISO 14044.
- Carbon Footprint according to PAS 2050.
- Environmental Data Sheet according to ISO 14025.





**TECHNICAL DATA: RACKS**

RACK CONFIGURATIONS & DESIGNATIONS		
Code	Rack capacity	Overall Rack Dimensions (LxWxH)

Ergo		
<b>ER1810X</b>	10 cages (2W x 5H) - single sided	1284 x 500 x 1824 (1934*) mm 50.57 x 19.69 x 71.81 (76.14*) in
<b>ER1815X</b>	15 cages (3W x 5H) - single sided	1909 x 500 x 1824 (1934*) mm 75.17 x 19.69 x 71.81 (76.14*) in
<b>ER1820X</b>	20 cages (2W x 5H) - double sided	1284 x 890 x 1824 (1940*) mm 50.57 x 35.04 x 71.81 (76.38*) in
<b>ER1830X</b>	30 cages (3W x 5H) – double sided	1909 x 890 x 1824 (1940*) mm 75.17 x 35.04 x 71.81 (76.38*) in

HD		
<b>ER1812X</b>	12 cages (2W x 6H) - single sided	1284 x 500 x 1995 (2015*) mm 50.57 x 19.69 x 78.54 (79.32*) in
<b>ER1818X</b>	18 cages (3W x 6H) - single sided	1909 x 500 x 1995 (2015*) mm 75.17 x 19.69 x 78.54 (79.32*) mm
<b>ER1824X</b>	24 cages (2W x 6H) - double sided	1284 x 890 x 1995 (2028*) 50.57 x 35.04 x 78.54 (79.84*)
<b>ER1836X</b>	36 cages (3W x 6H) - double sided	1909 x 890 x 1995 (2028*) mm 75.17 x 35.04 x 78.54 (79.84*) in

\* With easily removable supply plenum

**TECHNICAL DATA: CAGE**

CAGE DATA						
Cage	Cage Size				Feeder Capacity	Water Bottle Capacity*
	Width	Depth	Height	Floor Area		
	611 mm 24.06 in	419 mm 16.49 in	External: 280 mm 11.03 in Internal: 260.5 mm 10.25 in	1805 cm <sup>2</sup> (279.78 in <sup>2</sup> )	1.3L - 43.95 oz (US) - 45.75 oz (UK)	700ml - 23.66 oz (US) - 24.63 oz (UK)

\* Two bottles for cage



## OPTIONS AND ACCESSORIES

### ▶ OPTIONS FOR CAGE

- Cage body with grommet, for auto watering
- Cage Top with depression for disposable water pouches
- Cage Top with or without frontal hatch

### ▶ OPTIONS FOR RACK AND AHU

- Rack with automatic watering system
- Quick disconnecting magnetic joints (connecting AHU to rack or rack to rack)
- Flexible hoses (available in several lengths)
- Thimble for HVAC integration

### ▶ WHITE PAPERS

- Monitoring of environmental conditions in EMERAT 1800 Individually Ventilated Cage

### ▶ FILTER CERTIFICATIONS

- Microbiological filter Viral Filtration Efficiency (VFE) evaluation
- Microbiological filter Bacterial Filtration Efficiency (BFE) evaluation