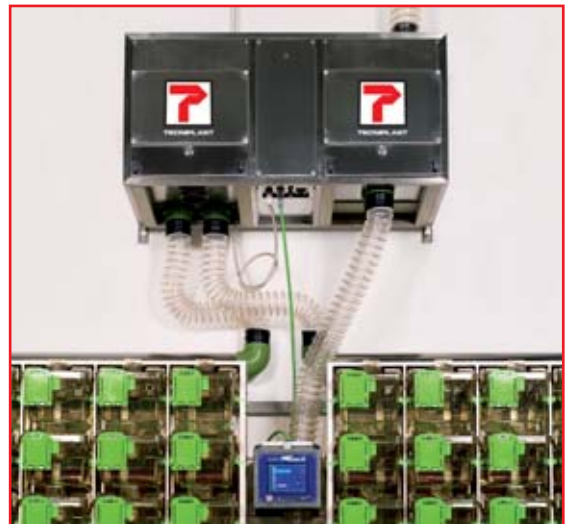




Housing

*Air Handling Solutions*

- Flexibility
- Reliability
- Simplicity
- Engineering Expertise



*"We had a complex, large-scale project which entailed fitting a set of unique requirements into one building: Techniplast was able to become a partner, and a member of the design team".*

**TECNIPLAST**  
*innovation through passion*<sup>SM</sup>

## 1/TouchSLIM Line

The TouchSLIMLine™ is an air handling unit that is fitted with a microprocessor-controlled touch screen which controls the speed of both Supply and Exhaust blowers while displaying the Temperature and Relative Humidity. Total control at your fingertips.

## 2/Thimble

It is made of plastic and it is light, autoclavable and washable. It allows to remove odours, pheromones and chemicals from the room air without interfering with the set values of the AHU, maintaining all the flexibility and simplicity of modifying cage pressure, rack types and air changes per hour. It connects to a simple Ø1.6 mm / 4 inches ceiling exhaust drop and can be shared with your room's existing exhaust system. It is a simple solution working in conjunction with the TouchSlim Line or wall mounted blower options.

## 3/Wall mounted blower with REMOTouch

Easy to install AHU that allows to have the blowers either in the IVC holding room or in a different one. It can save space in tight rooms by allowing the blowers to be placed on the wall instead of the floor. The remote control is definitely more ergonomic and user-friendly than having to climb up to verify or change settings. It appears the main reason for wanting wall mounted blowers has been that many IVC systems on the market put the blowers on the top of the rack where they can cause vibration and need to be removed from the rack when taking the rack out of the room. It should be noted that the TP IVC system has already solved those issues with a blower that is floor mounted for ease of use and to eliminate vibration. However, should there be a need to wall mount blower in rooms that are short on space, Tecniplast offers a wall mounted blower solution with the added advantage of a remote control panel for improved ergonomics and ease of use. Supply and/or Exhaust blowers can be provided. In the case of a supply only blower, the exhaust can be directly connected to the building HVAC using a CAR valve integration system.

## 4/IVC rack integration into HVAC system

Tecniplast is in a position to provide the best solution to connect the racks directly to the building ventilation system ensuring top quality standards. The flow control device adopted to connect the racks to the building system is the **CAR Valve** (Constant Airflow Regulator), which automatically regulates airflow in IVC Racks connected to an HVAC supply or exhaust system and in ductworks to constant levels. The operation is completely passive: no electric or pneumatic sensors or controls are needed. The Car Valve is featured in both Tecniplast main solutions, multi rack supply fan with direct exhaust connection and direct supply and exhaust connection.

## 5/Multi-rack supply fan and direct exhaust configuration

This solution provides an external AHU (Air Handling Unit) that is typically mounted in the interstitial space. It draws air from the holding room, passes it through a pre-filter and HEPA filter and then distributes it to the supply side of each IVC via a CAR valves to ensure proper flow. The exhaust side of the IVC is connected to the building HVAC system using a CAR valve, similar to the supply. Using conditioned room air has the advantage of separating the supply source from the building supply in the event of a building supply failure and it takes advantage of the room acting as a mixing chamber to reduce the need for additional or separate temperature and humidity conditioning. The AHU can be fitted with outputs for monitoring by the building automation system and can have a remote user interface for local monitoring. Additional options to allow the racks to operate under positive or negative pressure are also available.

## 6/Direct supply and exhaust configuration

The option of direct supply and exhaust is identical to configuration #5 where the Multi-rack Supply Fan is replaced by a direct connection to the building HVAC supply air system. In this situation, it is suggested for reasons of redundancy and reliability that the IVC HVAC system be independent from the main Vivarium system.

## 7/Testing and validation

Tecniplast invests heavily into the research and development of all its solutions including HVAC integration which is why we built an Air Flow Testing Facility to ensure that all the solutions offered to our customers have been tested and validated to perform to the rigorous standards of the lab animal industry.

The primary objective of any cage ventilation solution is to provide and maintain a stable environment for the animals while producing a safe and comfortable environment for staff and researchers. The decision regarding the type of ventilation to use should be made only after evaluating the risk-cost benefit of each solution with respect to redundancy, filtration, total construction costs, ergonomics, flexibility and reliability taking into account that each IVC manufacturer has their own advantages and disadvantages at each type of integration. Preferences can often vary from site to site and region to region and Tecniplast is ready and willing to help you make an informed decision and provide the right solution for a professional outcome.

### TouchSLIM Line



#### Cost Saving

- 4 single-sided, 2 double-sided racks or a mix.
- Only need one air handling unit.
- Space saving and reduces the amount of heat produced.
- Reduction of air changes per hour at room level.

#### Monitoring

- Parameters monitoring and alarms.
- Monitor: supply air flow, exhaust air flow, temperature, relative humidity and pressure (optional).

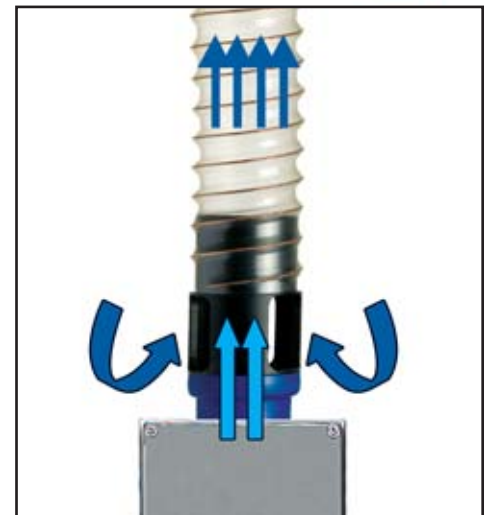
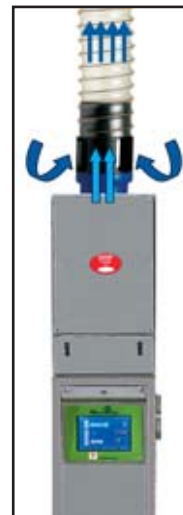
#### Flexibility

- Flexible setting and easy to use touch screen.
- Set cage type, number of air changes per hour, pressure mode (positive or negative) and navigate with ease through the system.

#### Ergonomics

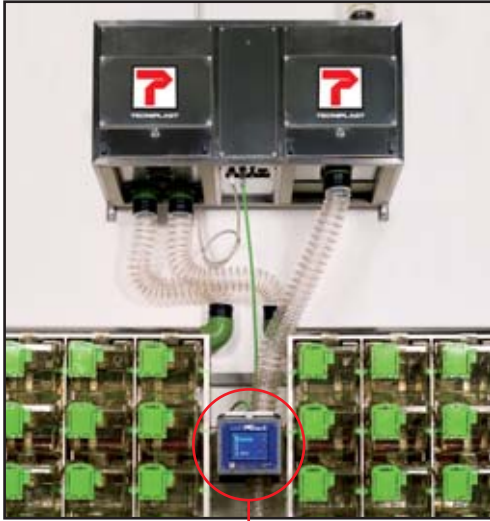
- Stand-alone, no vibrations transmitted.
- Casters make it easy to roll in and out.
- Ergonomic, light and independent from the rack.

### Thimble



### Wall mounted blower with REMOTouch

# 3



### IVC rack integration into HVAC system

# 4



### TECHNICAL SHEET

#### Thimble

200 m<sup>3</sup>/h for each ceiling connection.

Connection through a flexible hose which maximum length is 1500 mm / 59.06 inch.

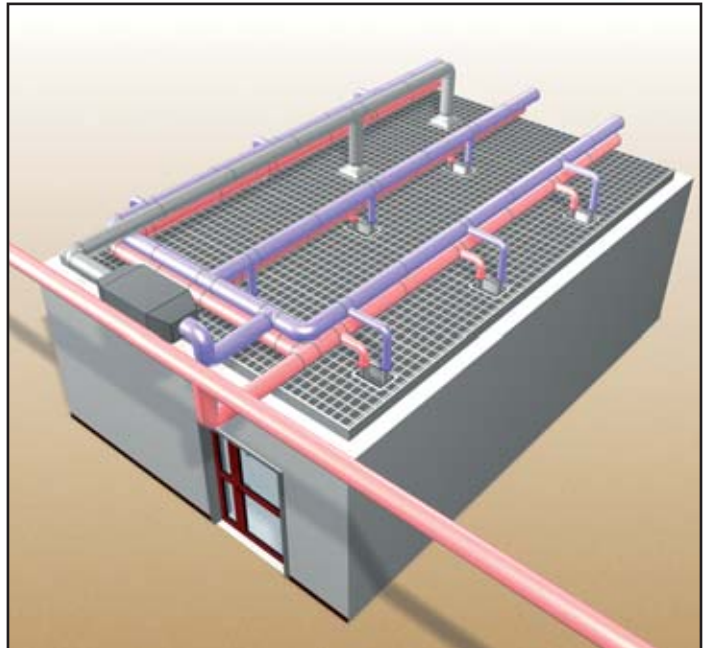
To be able to make a thimble connection the height of the room must be 2400 mm / 94.49 inch and a ceiling exhaust drop (101.6 mm / 4 inch).

#### Wall mounted blowers - REMOTouch

The lowest part of the frame is to be positioned at a height of 2150 mm / 84.65 inch from the floor.

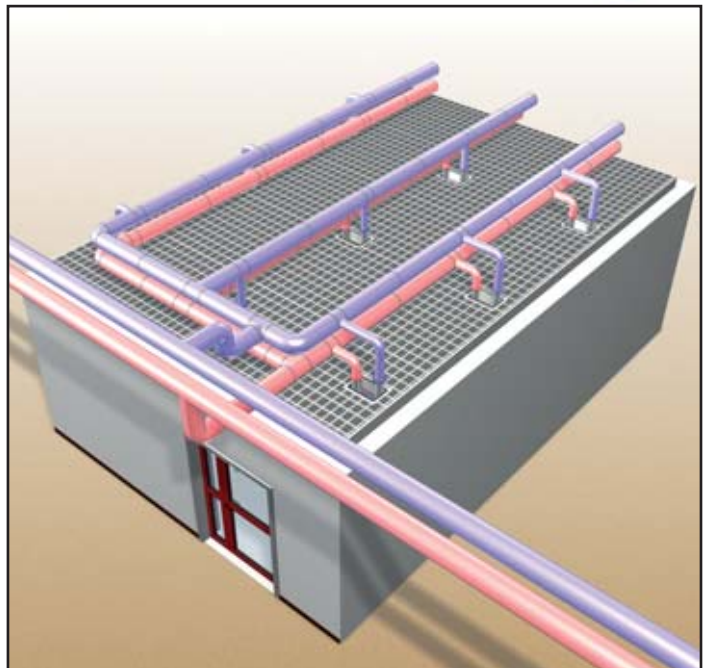
### Multi-rack supply fan and direct exhaust configuration

# 5



### Direct supply and exhaust configuration

# 6





## Options

- Slim AHU with pressure test.

## Accessories

- Thimble.
- Monitor Cage.

### ENGINEERING SUPPORT

When developing HVAC integration solutions for your project you want to make sure you have it right. That's why Tecniplast's Air Flow Division has engineers ready to assist you with the selection and design of your systems including utility, performance and design specifications for each of their solutions. Tecniplast can also provide AutoCAD layout support for your project to ensure systems are properly integrated into your building designs.

### PROJECT MANAGEMENT

HVAC integration of IVC racks involves a high degree of coordination between lighting, electrical, HVAC, structural and plumbing disciplines during the design phase as well as with general contractors in the field during construction, air balancing and commissioning. Tecniplast has Certified Project Managers available to assist your project during the implementation phase to facilitate coordination and integration of these systems in your project. Even the best designed systems can go wrong if not properly managed during construction so let Tecniplast help bring your designs to reality.

## Related Products

To maximise operational efficiency and learn more about these products contact your local representative.



#### Sealsafe:

The IVC standard for safety, practicality of use, cage visibility and housing flexibility.



**Sealsafe Plus:** high containment, certified protection from allergens, high density and practicality of use. The IVC (r)evolution.



#### WDM

**Wireless Data Management:** a software that allows you to monitor and remote-control your equipment.



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